

Parental Engagement and Home Learning Environment as Predictors to Academic Performance

Basilisa L. Lacerna¹, Mona Lisa O. Chagas, EdD¹

¹*Master of Arts in Education, Major in Educational Management, University of Mindanao- Tagum College, Tagum, Davao del Norte, Philippines*

Publication history: Received: June 11, 2026; Revised: July 5, 2026; Accepted: July 10, 2026

Email of Corresponding Author: lacernabasilisa@gmail.com

Abstract

This study examined parental engagement and the home learning environment as predictors of the academic performance of Grade 5 and Grade 6 learners in Laak South District, Laak, Davao de Oro. It was anchored on Ecological Systems Theory, Sociocultural Theory, and the Theory of Overlapping Spheres of Influence, which collectively emphasize the role of family, home, school, and social interaction in learners' academic development. The study employed a descriptive-predictive correlational research design using modified survey questionnaires and students' second-quarter general average grades. The respondents were 300 Grade 5 and Grade 6 learners aged 10 to 12 years old, selected through stratified random sampling from an estimated population of 1,850 learners. The instruments measured parental engagement in terms of parental educational acculturation, parental support, parental home scholastic relations, and parental stewardship, while the home learning environment was measured through parent-child interactions and learning materials. Mean, standard deviation, Pearson's r , and multiple regression were used to analyze the data. The findings showed that parental engagement was high, with parental support receiving the highest rating among its indicators. The home learning environment was also high, with parent-child interactions rated higher than learning materials. Students' academic performance was moderate, with an overall mean of 84.77, indicating satisfactory academic achievement. Significant positive relationships were found between parental engagement and academic performance, with parental stewardship showing the strongest correlation. Significant positive relationships were also found between the home learning environment and academic performance, with parent-child interactions showing the highest correlation. Regression analysis revealed that parental engagement significantly predicted academic performance, explaining 64.0% of the variance, while the home learning environment also significantly predicted academic performance, explaining 60.8% of the variance. The study concluded that parental engagement and a supportive home learning environment significantly influence and predict learners' academic outcomes. The study aligns with SDG 4: Quality Education by emphasizing the importance of family engagement, home-based learning support, and school-parent collaboration in improving learning outcomes. Its sustainability impact lies in strengthening educational, community, and institutional support systems that promote learner achievement through active parental involvement and favorable home learning conditions.

Keywords: Academic Performance, Educational Management, Home Learning Environment, Multiple Regression, Parental Engagement, Pearson R, Predictive Correlational Design, Quality Education

1. Introduction

Academic performance is affected by contemporary educational challenges, including socioeconomic disparities, standardized testing, curriculum rigidity, technology integration, and learner-related psychological factors. Socioeconomic differences may create unequal student outcomes, as highlighted in the OECD (2019) report. Robinson (2017) discusses how standardized testing and rigid curricula may limit holistic learner development, while Selwyn (2021) explains that technology in education creates both opportunities and barriers, especially when digital divide and readiness issues are present. Duckworth et al. (2007) emphasize grit and self-discipline as non-cognitive contributors to academic success, while Deming (2015) argues that limited attention to soft skills may restrict comprehensive academic development. Yeager et al. (2019) further show that psychological interventions and changes in students' perceptions and school environments can influence academic outcomes. Academic performance also depends on effective teaching, mindset, and technology-supported learning. Hattie (2015) highlights the role of effective teaching strategies in raising achievement. Yeager and Dweck (2020) emphasize growth mindset as a psychological factor that enhances academic success. Greenhow and Lewin (2016) explain that technology integration can improve learning experiences and outcomes. These perspectives indicate that academic performance is multidimensional and requires a holistic approach that considers school, family, psychological, and technological factors.

Parental engagement is consistently linked to academic achievement. Mugumya et al. (2023) found that providing basic needs, maintaining academic communication, and creating a conducive learning environment significantly affect learners'

academic performance. Diaz (2023) found that parental engagement practices in the Philippines significantly influenced students' pre-calculus performance, especially in the new normal. Geneta and Sarmiento (2023) likewise emphasized that the home learning environment and parent-teacher ecology influence Grade 6 learners' academic performance and positive social behavior. Several studies confirm the relationship between parental engagement and academic performance across contexts. Din et al. (2023) found that socioeconomic status strengthens the relationship between parental engagement and children's school achievement. Chukwuemeka et al. (2023) used predictive analytics and identified race/ethnicity and parental education as important predictors of student success. Peng et al. (2023) proposed that parental involvement may both support achievement and create academic pressure when excessive. Hattie (2015) emphasized that factors such as effective teaching, feedback, clear learning intentions, and learner engagement have substantial influences on academic achievement. Ali et al. (2022) found that home-based involvement, such as helping with homework and discussing school progress, improves secondary students' achievement. Rodríguez Fernández et al. (2018) reported that permissive and democratic parenting styles are associated with greater school involvement and better academic performance.

Parental engagement is also shaped by demographic, institutional, and social factors. Mugumya et al. (2023) identified home-, school-, and government-related challenges affecting parental engagement in Uganda. Sattar et al. (2020) found that students from families with higher parental education and middle-class socioeconomic background showed stronger engagement and better academic results. Wijaya et al. (2023) showed that parental support reduces stress among doctoral students in mathematics education, suggesting that parental involvement remains relevant even in higher education. Wong et al. (2018) found that parental engagement in primary education positively relates to academic achievement and psychosocial skills. Gara and Dela Cruz (2023) confirmed the continuing importance of parental engagement in the Philippines, particularly in students' science achievement during in-person classes. The literature also links parental engagement to wider developmental outcomes. Burns et al. (2019) connected parental involvement, physical activity, and children's academic achievement. Mugomba et al. (2023) emphasized that parental participation in areas such as safety and diversity contributes to better academic outcomes. Derrick et al. (2021) found that models of parenting engagement may affect academic productivity and performance differently across gender and parenting roles.

The home learning environment is another major factor in academic success. Geneta and Sarmiento (2023) emphasized the value of a supportive home setting and parent-teacher partnership in improving academic performance and social behavior. Cahyono (2016) found that parental income and the home learning environment influence children's academic achievement. Rosyada and Sundari (2021) showed that digital learning environments, such as Google Classroom, can support academic writing performance when traditional classroom access is limited. Home-based educational resources, routines, and interactions influence learners' skills and achievement. Skwarchuk et al. (2022) found that parental attitudes toward literacy and mathematics and the frequency of home activities are related to children's literacy and mathematics skills. Francisca and Mezoh (2018) found that parental socioeconomic status, involvement, education level, and home location predicted academic performance among pupils with learning disabilities. Mapigano (2018) research showed that parental education, sociocultural factors, socioeconomic status, and parental involvement influence primary school performance. Opoku et al. (2023) found that parental educational support and provision of learning materials improve academic achievement.

Other studies show that the home environment affects self-regulation, motivation, confidence, and long-term academic development. Komlavathi and Yasin (2022) found positive relationships among socioeconomic status, parental involvement, parenting style, self-management, and academic outcomes. Khanolainen et al. (2020) showed that the home learning climate mediates the long-term development of reading and mathematics skills. Akrofi (2020) found that socioeconomic status, parenting style, and family size contribute to poor academic performance when the home environment is weak. Kaptich et al. (2019) reported a significant positive link between home environment and academic success using Joyce Epstein's six types of parental involvement. Sonnenschein et al. (2022) found that parents value home learning activities, although their confidence differs across subjects such as mathematics, reading, science, and written language. Pandemic and post-pandemic learning also strengthened the importance of the home learning environment. Pecjo (2023) found that home factors, students' attitudes, and interest in mathematics influenced learning outcomes during remote learning. Huo et al. (2023) expanded the concept of home learning environment by linking posture-based smart learning environments with physical well-being and academic performance. Susperreguy et al. (2021) found that socioeconomic status affects the relationship between home numeracy activities and children's numeracy development. Mugumya et al. (2022) found significant positive links between parental involvement, parenting practices, home learning activities, volunteering, and academic performance. Cheema and Bhardwaj (2021) showed that a supportive home environment improves self-esteem, which in turn enhances academic achievement. Thomas and Mahida (2022) identified learning environment, personal factors, and home-related factors as interconnected influences on academic performance among nursing students.

Globally, studies from Uganda, Pakistan, Indonesia, Cameroon, Tanzania, Ghana, Kenya, Finland, Mexico, Canada, Spain, and the United States indicate that parental engagement and home learning environments influence learners' academic

performance through academic support, socioeconomic conditions, parental education, home resources, parent-child interaction, self-regulation, well-being, and school collaboration. These findings show that the issue is not limited to one country or educational system. Nationally, Philippine-based studies support the relevance of parental engagement and home learning conditions. Diaz (2023) found that parental involvement at home and school affected students' performance in pre-calculus. Gara and Dela Cruz (2023) found that parental engagement and learning engagement contributed to Grade 8 students' science achievement during face-to-face classes. Pecjo (2023) found that home factors influenced mathematics performance during the COVID-19 pandemic. Geneta and Sarmiento (2023) also showed that the home learning environment and parent-teacher ecology affect Grade 6 academic performance and positive social behavior.

Locally, the present study focuses on Grade 5 and Grade 6 learners in Laak South District, Laak, Davao de Oro. The study responds to the limited availability of research on parental engagement and home learning environment as predictors of academic performance in the Philippines, particularly in Laak South District, Laak, Davao de Oro. Although previous studies have explored parental engagement in educational settings, there remains limited evidence examining how parental involvement and the home learning environment jointly influence learners' academic performance within this local context. Home Learning Environment and Parent-Teacher Ecology towards Academic Performance and Positive Social Behavior by Geneta and Sarmiento (2023) provides useful evidence but does not directly examine the combined effects of parental engagement and home learning environment in this specific locale. The sociocultural and educational conditions of Laak make the study necessary for generating localized evidence that may guide interventions for improving academic performance.

This study is anchored in Bronfenbrenner (1979), which explains that a person's development is shaped by multiple environmental systems. The microsystem, particularly the family and home, directly affects a child's growth and learning. In this study, parental engagement and the home learning environment are viewed as immediate influences on learners' academic success through support, routines, educational resources, and encouraging interactions. The study is also grounded in Vygotsky (1978), which emphasizes that cognitive development occurs through social interaction with more knowledgeable individuals. Parents support children's learning by helping with homework, motivating them, modeling learning behaviors, and providing the social and cultural tools needed for academic development. The home learning environment serves as the child's first sociocultural setting, where language, symbols, routines, resources, and attitudes toward learning are developed.

The study further draws on Epstein (2001), which explains the interaction among family, school, and community in shaping children's learning and growth. The theory supports the idea that strong collaboration between home and school strengthens academic outcomes. Parental engagement serves as a bridge between family and school by creating shared expectations, learning support, and consistent educational goals. Conceptually, the study examines parental engagement and home learning environment as independent variables and academic performance as the dependent variable. Parental engagement includes parental educational acculturation, parental support, parental home scholastic relations, and parental stewardship. It also involves parents encouraging learners to perform well academically, emphasizing the importance of achieving high grades, supporting participation in extracurricular activities, and motivating them to pursue educational advancement. The home learning environment includes parent-child interactions and learning materials. The home learning environment, highlighted in the study by Susperreguy et al. (2021), provides a foundation for cognitive and academic development through resources and intellectual activities. Academic performance is measured through the General Average Grade for the 2nd Quarter and refers to the extent to which learners achieve educational goals (Geneta & Sarmiento, 2023).

Although many studies have examined parental engagement, home learning environment, and academic performance, there remains a gap in research that jointly investigates parental engagement and home learning environment as predictors of academic performance in Laak South District, Laak, Davao de Oro. The literature includes related works such as Geneta and Sarmiento (2023), but the combined influence of these variables has not been sufficiently examined in the local context. This gap is important because Laak South District has distinct sociocultural and educational conditions that may affect learners' academic outcomes. Localized evidence is needed to determine how parental educational acculturation, parental support, parental home scholastic relations, parental stewardship, parent-child interactions, and learning materials relate to and predict students' academic performance. The study therefore aims to generate evidence that can support parents, educators, school leaders, policymakers, family welfare agencies, and future researchers in strengthening home-school support systems.

This study primarily aligns with SDG 4 – Quality Education because it examines factors that may improve learners' academic performance, promote inclusive and equitable education, and support lifelong learning. The focus on parental engagement and the home learning environment directly supports the goal of improving learning outcomes by strengthening family-based and school-linked support systems. The study also relates to SDG 3 – Good Health and Well-Being to the extent that the reviewed literature connects parental support, stress reduction, self-esteem, physical well-being, and supportive home environments with academic success. This alignment is supported by studies such as Wijaya et al.

(2023), Cheema and Bhardwaj (2021), Burns et al. (2019), and Huo et al. (2023), which connect parental support, well-being, physical health, and academic outcomes. The study further supports SDG 17 – Partnerships for the Goals because it emphasizes collaboration among families, schools, communities, and educational institutions. This is consistent with Epstein (2001), which highlights the role of family-school-community partnerships in improving learning and development. The study's relevance to parents, educators, policymakers, local schools, family welfare agencies, and regional educational policy frameworks also reflects the importance of institutional and community partnerships in improving education.

The study contributes to educational sustainability by identifying family and home-based factors that may strengthen learners' academic performance. By examining parental engagement and the home learning environment, the research supports the development of sustainable academic support systems that extend learning beyond the classroom and reinforce school-based instruction. The study contributes to socio-economic sustainability by recognizing that socioeconomic status, parental education, access to learning materials, and home resources influence academic achievement, as reflected in OECD (2019), Din et al. (2023), Cahyono (2016), Francisca and Mezoh (2018), Mapigano (2018), Akrofi (2020), and Susperreguy et al. (2021). Understanding these influences can help schools and policymakers design interventions for learners from varied socioeconomic backgrounds. The study contributes to public health and well-being sustainability by recognizing that academic performance is connected to self-discipline, stress, self-esteem, physical well-being, motivation, and supportive relationships, as discussed by Duckworth et al. (2007), Wijaya et al. (2023), Cheema and Bhardwaj (2021), Thomas and Mahida (2022), Burns et al. (2019), and Huo et al. (2023). A supportive home learning environment may therefore contribute not only to academic outcomes but also to learners' broader developmental well-being.

The study contributes to technological and digital sustainability by acknowledging the role of educational technology and digital learning environments in academic performance. Selwyn (2021), Greenhow and Lewin (2016), and Rosyada and Sundari (2021) show that technology can support learning, but access, readiness, and digital divide issues must be considered. This makes the study relevant to discussions on equitable and sustainable digital learning support at home. The study also contributes to institutional and governance sustainability by providing localized evidence that may inform school programs, parent engagement initiatives, regional education policies, and future research. By focusing on Laak South District, Laak, Davao de Oro, the study may help schools and education stakeholders develop targeted strategies for strengthening parental engagement and improving home learning conditions.

The study aims to investigate parental engagement and the home learning environment as predictors of academic performance among elementary students in Laak South District, Laak, Davao de Oro. Specifically, it seeks to describe the level of parental engagement in terms of parental educational acculturation, parental support, parental home scholastic relations, and parental stewardship; describe the level of home learning environment in terms of parent-child interactions and learning materials; describe students' academic performance based on their General Average Grade Outcomes for the 2nd Quarter; determine the relationship between parental engagement and home learning environment to academic performance; and determine whether parental engagement and home learning environment significantly predict students' academic performance. The study also tests the hypotheses that parental engagement and home learning environment do not significantly affect the academic performance of elementary students in Laak South District, Laak, Davao de Oro. Specifically, it assumes no significant relationship between parental educational acculturation, parental support, parental home scholastic relations, parental stewardship, parent-child interactions, learning materials, and students' General Average Grade outcomes. These hypotheses provide the basis for determining whether the independent variables significantly relate to and predict academic performance.

2. Material and methods

2.1 Research Design

The study employed a descriptive research approach with a predictive-correlational design using multiple regression analysis to determine how parental engagement and the home learning environment predict the academic performance of Grade 5 and Grade 6 learners in Laak South District, Laak, Davao de Oro. The descriptive approach was used to examine the levels of parental engagement, home learning environment, and academic performance, while the predictive-correlational aspect determined the strength, direction, and predictive value of the relationships among the variables. Regression analysis was used to assess the predictive power of parental engagement and home learning environment on academic performance while controlling for potential confounding factors.

2.2 Locale of the Study

The study was conducted in Laak South District, Laak, Davao de Oro. The locale was selected because it reflects varied socioeconomic conditions, cultural backgrounds, and educational resources. Schools in the district range from more resourced institutions in urbanized areas to schools in rural and indigenous communities with resource constraints. This

setting provided an appropriate context for examining how parental engagement and the home learning environment influence learners' academic outcomes.

2.3 Respondents of the Study

The respondents were Grade 5 and Grade 6 students enrolled in elementary schools within Laak South District, Laak, Davao de Oro. They were aged 10 to 12 years old, representing the typical developmental stage of upper elementary learners. Included in the study were students currently enrolled in Grades 5 or 6 in the district and directly experiencing the educational conditions being examined in relation to parental engagement and the home learning environment. Excluded were students not enrolled in Grades 5 or 6, those studying outside Laak South District, those with significant absenteeism defined as missing more than 20% of the school year, those unable to provide informed assent, those without parental or guardian consent, and learners who could not understand the survey instrument even with reasonable assistance. Respondents were also allowed to withdraw from the study at any time or refuse to answer any item without penalty or academic consequence.

2.4 Sample and Sampling Procedure

The study used stratified random sampling to ensure representation of Grade 5 and Grade 6 learners across elementary schools in Laak South District, Laak, Davao de Oro. Based on enrollment records from the Department of Education (DepEd) Division of Davao de Oro, Laak South District, the estimated population of Grade 5 and Grade 6 learners was 1,850. From this population, 300 respondents were selected, with schools serving as strata. The sample size was considered sufficient for statistical analysis while balancing time and resource limitations. The choice of 300 respondents was supported by current research methodologies and statistical requirements, as Hair et al. (2018) suggest that exploratory factor analysis and regression analysis require adequate sample sizes, with recommendations often starting at 200 for Pearson Correlation analysis and increasing depending on the complexity of the study.

2.5 Research Instrument

The study used modified survey questionnaires from two main sources. The parental engagement instrument was adapted from a previously validated survey questionnaire designed to measure parental engagement in schooling, which demonstrated good internal consistency with a Cronbach's alpha of 0.86. The home learning environment and academic performance instrument was adapted from Geneta and Sarmiento (2023) in their study *Home Learning Environment and Parent-Teacher Ecology towards Academic Performance and Positive Social Behavior*, which reported a Cronbach's alpha of 0.90. These instruments were selected because of their relevance and reliability in measuring parental engagement and home learning environment. A 4-point scale was used in the survey. For parental engagement, very high indicated that parental engagement was very much observed, high indicated that parental engagement was much observed, moderate indicated that parental engagement was moderately observed, low indicated that parental engagement was less observed, and very low indicated that parental engagement was not observed. For the home learning environment, very high indicated that the home learning environment was very much favorable, high indicated that it was much favorable, moderate indicated that it was moderately favorable, low indicated that it was fairly favorable, and very low indicated that it was not favorable. For academic performance, scores from 90.00 to 100.00 were interpreted as very high or outstanding, 85.00 to 89.99 as high or very satisfactory, 80.00 to 84.99 as moderate or satisfactory, 75.00 to 79.99 as low or fairly satisfactory, and 0.00 to 74.99 as very low or did not meet expectations.

2.6 Data Gathering Procedure

The researcher first prepared a letter addressed to the University Dean requesting permission to conduct the study. After approval was obtained, the study was submitted to the Research Ethics Committee (REC) to ensure compliance with ethical requirements. The questionnaires were then given to three specialists for validation. After the instruments were approved by the panelists, the researcher requested permission from the relevant authorities and secured approval from the school principals in Laak, Davao de Oro to conduct the survey among Grade 5 and Grade 6 learners. After approval from the school principals, parents or guardians were given consent forms explaining the purpose of the study, participant rights, and data privacy protections. The learners received age-appropriate assent forms written in clear language and supported by a Bisaya translation to ensure understanding. Participation proceeded only after both parental consent and child assent were obtained. The researcher administered the questionnaires physically, and respondents completed the survey within approximately 10 to 30 minutes after instructions were given. The questionnaires were retrieved on the same day to ensure prompt and secure collection of data.

2.7 Data Analysis Techniques

The data were analyzed using mean, standard deviation, Pearson's r , and regression analysis. Mean was used to determine the average levels of parental engagement, home learning environment, and academic performance. Standard deviation was used to determine the variability of responses related to parental engagement, home learning environment, and academic achievement. Pearson's r was used to examine the relationships among parental engagement, home learning

environment, and academic performance. Regression analysis was used to determine the predictive influence of parental engagement and home learning environment on students' academic achievement.

2.8 Ethical Considerations

The study followed ethical procedures to protect the rights, privacy, and welfare of the respondents. The information collected from participants was handled with strict confidentiality and in accordance with the Data Privacy Act of 2012 (RA 10173). Personal identifiers were not disclosed in reports or presentations, and responses were aggregated for analysis. Data were securely stored, and printed materials were disposed of responsibly after completion of the study. The research adhered to fundamental ethical principles, including respect for persons, beneficence, and justice, to ensure the protection and well-being of all participants throughout the research process. Participation was voluntary, and informed consent was obtained before data collection following established ethical standards for conducting research involving human participants. The study did not use deception, and participants could withdraw at any time without consequences. Recruitment was conducted neutrally and non-coercively, with clear assurance that participation was not connected to grades, teacher evaluation, or school standing. Teachers and administrators did not pressure students to participate. To promote inclusivity, the research instrument was adapted in English and Bisaya so respondents could understand and answer the questions. The study was assessed as minimal risk, although some respondents might experience mild discomfort when reflecting on home situations or parental engagement. To reduce this risk, learners were informed that they could skip any question they were uncomfortable answering. Privacy risks were addressed by coding questionnaires and limiting data access to the researcher. The researcher also declared no conflict of interest, and the manuscript was checked for originality using Grammarly and Small SEO Tools Plagiarism Checker to ensure academic integrity.

3. Results and Discussion

3.1 Main Findings on the Levels of the Study Variables

3.1.1 Level of Parental Engagement

The results showed that parental engagement obtained an overall mean of 3.83 with a standard deviation of 0.598, indicating a high level. Among the indicators, parental support recorded the highest mean of 4.08 with a standard deviation of 0.668, followed by parental home scholastic relations with a mean of 3.80 and a standard deviation of 0.779, parental educational acculturation with a mean of 3.77 and a standard deviation of 0.687, and parental stewardship with a mean of 3.66 and a standard deviation of 0.782. Although parental stewardship had the lowest mean, all indicators were still interpreted as high. These findings indicate that parents were consistently involved in their children's education through academic guidance, emotional support, supervision, home-based learning assistance, and school-related involvement. The findings suggest that sustained collaboration between families and schools contributes to a learning environment that supports students' academic development and overall educational success. Parental support as the highest indicator suggests that parents motivated learners, helped them manage school-related demands, assisted with lessons, and recognized their achievements. The findings indicate that consistent parental encouragement and active participation in learning activities help strengthen students' academic motivation, educational aspirations, and involvement in school. This also aligns with Hattie (2015), who identified parental involvement as an important factor in student learning outcomes.

3.1.2 Indicators of Parental Engagement

The findings showed that parental home scholastic relations were highly observed, with parents helping children complete school tasks, assisting with assignments, reviewing lessons and test papers, discussing school events, and monitoring academic performance. Parental educational acculturation was also high, indicating that parents were generally aware of school expectations, policies, and academic practices. Parental stewardship, while the lowest among the four indicators, was still highly observed, showing that parents generally established study routines, supervised homework, monitored media use and peer relationships, checked attendance, and guided behavior and decision-making. These results demonstrate that parental engagement operates through multiple forms of support, including direct academic assistance, awareness of educational expectations, supervision of learning activities at home, and guidance in behavior and decision-making. The findings on parental home scholastic relations suggest that ongoing communication between parents and schools, together with active involvement in children's learning at home, contributes positively to students' academic growth and overall development. Likewise, consistent parental participation in home-based learning activities appears to enhance learners' motivation, reinforce academic skills, and promote favorable educational outcomes. The high level of parental educational acculturation indicates that parents who are familiar with school expectations, policies, and academic practices are better positioned to support their children's educational experiences and facilitate successful adjustment to the school environment. The result on parental stewardship aligns with Bronfenbrenner (1979) ecological perspective, which identifies the family as the child's primary environment for development. This finding suggests that parental supervision, guidance, and the establishment of structured routines contribute to the development of responsible behavior, self-discipline, and positive academic performance among learners.

3.1.3 Level of Home Learning Environment

The home learning environment obtained an overall mean of 3.83 with a standard deviation of 0.601, indicating a high level. Parent-child interactions recorded the higher mean of 3.92 with a standard deviation of 0.693, while learning materials obtained a mean of 3.73 with a standard deviation of 0.708. Both indicators were interpreted as high, showing that learners generally experienced favorable home learning conditions. These findings indicate that students had supportive home environments characterized by meaningful parent-child communication, learning guidance, and access to educational resources. Parent-child interactions, as the stronger indicator, suggest that parents frequently communicated with learners, provided guidance, and actively participated in learning-related activities. This finding is supported by Vygotsky (1978), which emphasizes that learning develops through social interaction with more knowledgeable individuals, particularly parents. The findings further indicate that consistent communication and collaboration between parents and learners help create a home environment that fosters academic growth and supports educational success. The high-rating for learning materials suggests that learners had access to books, learning tools, and instructional resources that supported classroom learning and independent study. This finding highlights the importance of providing educational resources at home to enhance learning opportunities, strengthen academic engagement, and support students' overall educational development. Access to adequate learning resources enables learners to reinforce lessons, practice skills independently, and participate more effectively in academic activities, thereby contributing to improved learning outcomes.

3.1.4 Level of Academic Performance

The students' academic performance obtained an overall mean of 84.77 with a standard deviation of 3.425, indicating a moderate level. This means that students achieved satisfactory academic performance but had not yet reached the high or outstanding level. The standard deviation showed that students' grades were closely clustered around the average, suggesting a consistent level of performance among the respondents. This finding indicates that although parental engagement and the home learning environment were highly observed, students' academic performance remained at a satisfactory level. Hattie (2015) supports this interpretation by showing that parental involvement and supportive home environments have substantial positive effects, but these factors alone do not fully explain high academic performance because achievement is also affected by teaching quality, learner self-efficacy, and peer-related factors. Furthermore, the findings suggest that while parental support contributes positively to students' learning experiences, academic success is influenced by multiple interconnected factors that extend beyond the home setting. Thus, maintaining high levels of parental engagement, together with other educational supports, may help learners achieve stronger academic outcomes and sustain continued academic growth.

3.2 Relationship Between Parental Engagement and Academic Performance

The results showed statistically significant positive relationships between all indicators of parental engagement and students' academic performance. The correlation values ranged from 0.588 to 0.690, with all p-values at 0.001, leading to the rejection of the null hypothesis. Parental stewardship had the strongest relationship with academic performance at $r = 0.690$, followed by parental home scholastic relations at $r = 0.678$, parental educational acculturation at $r = 0.620$, and parental support at $r = 0.588$. These findings indicate that higher parental engagement is associated with better academic performance. The results demonstrate that learners tend to achieve better academic outcomes when parents are actively involved in providing guidance, encouragement, and support throughout the educational process. The findings also suggest that sustained collaboration between families and schools, together with active parental participation in children's education, contributes to improved academic outcomes. The strong relationship between parental stewardship and academic performance indicates that parental monitoring, guidance, and consistent involvement may help learners develop responsibility, self-discipline, and behaviors that support academic success. Furthermore, the findings imply that consistent parental supervision and involvement help learners develop positive study habits, maintain academic focus, and achieve higher levels of educational performance.

3.3 Relationship Between Home Learning Environment and Academic Performance

The results showed a statistically significant positive relationship between the home learning environment and students' academic performance. Parent-child interactions had a strong correlation with academic performance ($r = 0.716$, $p = 0.001$), while learning materials also demonstrated a strong correlation with academic performance ($r = 0.712$, $p = 0.001$). These results led to the rejection of the null hypothesis for both indicators. The findings indicate that supportive parent-child interaction and access to learning materials are strongly associated with improved academic performance. The result on parent-child interactions is consistent with Vygotsky (1978), which emphasizes the importance of social interaction and adult guidance in promoting cognitive development and learning. This finding suggests that regular communication, encouragement, and academic support from parents contribute positively to learners' educational achievement. The result on learning materials supports Bronfenbrenner (1979), which identifies the home microsystem as a direct influence on child development. The findings further imply that the availability of books, learning tools, and other educational resources at home enhances learning opportunities, strengthens academic engagement, and contributes to better academic outcomes. These results highlight the important role of a resource-rich home environment in supporting students' learning and academic success.

3.4 Predictive Influence of Parental Engagement on Academic Performance

The regression results showed that parental engagement significantly predicted students' academic performance. The model produced $R = 0.800$, $R^2 = 0.640$, $F\text{-ratio} = 131.1$, and $p = 0.001$. This means that 64.0% of the variance in academic performance was explained by the combined indicators of parental engagement, while the remaining 36.0% was due to other factors. All four indicators significantly predicted academic performance. Parental stewardship had the strongest standardized coefficient at $\beta = 0.322$ with $t = 6.761$ and $p = 0.001$, followed by parental home scholastic relations at $\beta = 0.267$ with $p = 0.001$, parental educational acculturation at $\beta = 0.250$ with $p = 0.001$, and parental support at $\beta = 0.139$ with $p = 0.003$. These results indicate that parental engagement is a major predictor of students' academic performance, with parental stewardship serving as the strongest contributor. This means that parents' guidance, supervision, and commitment to their children's education are important in improving academic outcomes. The findings suggest that parental guidance, reinforcement of educational values, and sustained involvement in learning activities contribute positively to students' academic success and overall educational development. The predictive role of parental home scholastic relations further suggests that when parents actively support learning activities beyond the classroom and maintain regular communication with the school, students are more likely to achieve positive academic outcomes. The significant contribution of parental educational acculturation indicates that parents' understanding of educational expectations, school policies, and learning requirements helps create a supportive and consistent learning environment for learners. Although parental support had the lowest predictive influence, it remained statistically significant, indicating that parents' encouragement, involvement, and emotional support continue to play an important role in strengthening students' motivation, confidence, perseverance, and overall academic performance.

3.5 Predictive Influence of Home Learning Environment on Academic Performance

The regression results showed that the home learning environment significantly predicted students' academic performance. The model produced $R = 0.780$, $R^2 = 0.608$, $F\text{-ratio} = 230.0$, and $p = 0.001$, indicating that 60.8% of the variance in students' academic performance was explained by the home learning environment, while 39.2% was due to other factors. Parent-child interactions were the stronger predictor with $\beta = 0.432$ and $p = 0.001$, while learning materials also significantly predicted academic performance with $\beta = 0.419$ and $p = 0.001$. These findings indicate that a supportive home environment contributes substantially to academic performance. Parent-child interactions were the stronger predictor, showing that positive communication, encouragement, monitoring, and guidance help learners become more motivated and engaged in their studies. The findings further suggest that strong collaboration between parents and learners fosters a positive learning atmosphere that enhances motivation, participation, and academic achievement. It is also supported by Hattie (2015), who highlighted that parental involvement and supportive home relationships strengthen learners' confidence, engagement, and commitment to learning. Learning materials also significantly predicted academic performance, showing that books, modules, educational technologies, and other instructional resources allow learners to reinforce classroom instruction, practice skills, complete tasks, and continue learning beyond the classroom. This finding suggests that access to educational resources at home creates meaningful opportunities for independent learning, skill development, and continuous academic engagement, which contribute positively to students' overall academic performance.

3.6 Overall Interpretation of the Findings

Overall, the findings showed that parental engagement and the home learning environment were highly observed, while students' academic performance was moderate or satisfactory. The results also showed significant positive relationships among parental engagement, home learning environment, and academic performance. Regression analysis confirmed that both parental engagement and home learning environment significantly predicted academic performance, with parental stewardship and parent-child interactions emerging as the strongest predictors in their respective models. These findings confirm the importance of family involvement and home-based learning support in students' academic success. The results are consistent with Bronfenbrenner (1979), which highlights the influence of the family environment on child development, Epstein (2001), which emphasizes family involvement in academic performance, and Vygotsky (1978), which explains the role of social interaction in learning. The findings indicate that learners perform better when parents provide guidance, supervision, educational support, positive communication, and adequate learning materials at home.

4. Conclusion & Recommendations

The study concluded that parental engagement and the home learning environment significantly influenced and predicted the academic performance of Grade 5 and Grade 6 learners in Laak South District, Laak, Davao de Oro. The findings showed that parental engagement was much observed, the home learning environment was much favorable, and students attained a satisfactory level of academic performance. Significant positive relationships were found between parental engagement, home learning environment, and academic performance. Regression analysis further confirmed that parental engagement significantly predicted academic performance, with parental stewardship as the strongest predictor, followed by parental home scholastic relations, parental educational acculturation, and parental support. These findings affirmed

Epstein (2001), Vygotsky (1978), and Bronfenbrenner (1979), which emphasize the role of parental participation and a supportive home learning environment in improving students' academic success.

Based on the findings, parents are encouraged to maintain and strengthen their involvement in their children's education by providing consistent support, supervision, motivation, and participation in school and home-based learning activities. Since parental stewardship emerged as the strongest predictor of academic performance, parents should prioritize regular study routines, academic monitoring, open communication, positive parent-child interactions, and sufficient learning resources at home. Educators and school leaders should strengthen home-school collaboration through parent-engagement programs, including parenting workshops, academic tracking initiatives, and family involvement activities that enhance parental stewardship, home-school relations, and educational awareness. Future researchers are encouraged to conduct similar studies using different variables, larger samples, or other educational settings to validate and extend the findings of the study.

Compliance with ethical standards

The authors declare no conflict of interest. This study complied with recognized ethical standards for human-participant research by ensuring voluntary participation with informed consent, the right to withdraw without penalty, and strict confidentiality through anonymous, secure, and aggregated data handling. Given the focus on psychological well-being, procedures were non-invasive, and safeguards were observed to minimize discomfort, with guidance to appropriate support services when needed, and required institutional permissions were secured for instrument use and access to academic records.

REFERENCES

- Akrofi, O. (2020). *Academic achievement of primary school pupils: Investigating home environment factors contributing to low academic performance*. <https://doi.org/10.38159/ehass.2020061>
- Ali, N., Mukhtar, S., Khan, Y., Ahmad, M., & Khan, Z. (2022). Analysis of secondary school students' academic performance and parental involvement in children education at home. *Education and Self Development*, 17(3), 118–142. <https://doi.org/10.17853/1994-5639-2022-9-118-142>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Burns, R., Bai, Y., Fu, Y., Pfledderer, C. D., & Brusseau, T. (2019). Parent engagement and support, physical activity, and academic performance (PESPAAP): A proposed theoretical model. *International Journal of Environmental Research and Public Health*, 16(23), 4698. <https://doi.org/10.3390/ijerph16234698>
- Cahyono, D. A. (2016). *The impact of parental income and home learning environment on children's academic performance at school: A study at 5th grade students of State Elementary School 2 Banjardowo in the academic year of 2015/2016* (Undergraduate thesis, Walisongo State Islamic University). <https://eprints.walisongo.ac.id/6154/>
- Cheema, G. K., & Bhardwaj, M. (2021). Study of self-esteem and academic achievement in relation to home environment among adolescents. *European Journal of Molecular & Clinical Medicine*, 8(1), 1978–1987.
- Chukwuemeka, U. K., Angela, O. A., Abiodun, O. S., Chukwunike, A. J., & Anwar, C. C. (2023). An enhanced student engagement and academic performance predictive system. *International Journal of Latest Trends in Engineering and Technology Management & Applied Science*, 12(5), 125–136. <https://doi.org/10.51583/ijltemas.2023.12506>
- Deming, D. J. (2015). The growing importance of social skills in the labor market. *Quarterly Journal of Economics*, 130(4), 1593–1640. <https://doi.org/10.1093/qje/qjv022>
- Derrick, G., Chen, P.-Y., van Leeuwen, T., Larivière, V., & Sugimoto, C. R. (2021). *The academic motherload: Models of parenting engagement and the effect on academic productivity and performance*. <https://arxiv.org/abs/2108.05376>
- Diaz, L. B. (2023). Current approaches for engaging parents in students' academic performance: Basis for parental engagement policy. *Asian Journal of Multidisciplinary Research and Innovation*, 2(4). <https://doi.org/10.54536/ajmri.v2i4.1817>
- Din, H. U., Idris, M., & Shahzad, S. (2023). Evaluating the moderating effect of socio-economic status on the relationship between parental engagement in transition to school and students performance. *Journal of Applied Social Sciences*, 10(2). <https://doi.org/10.46662/jass.v10i2.380>
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087–1101. <https://doi.org/10.1037/a0015043>
- Epstein, J. L. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Westview Press.
- Francisca, E. E., & Mezoh, P. R. (2018). Home environment as a predictor of academic performance of pupils with learning disabilities in Buea, South West Region of Cameroon. <https://doi.org/10.31142/IJTSRD19067>

- Gara, M., & Dela Cruz, F. M. (2023). Academic performance of Grade 8 learners in science during face-to-face class at General Emilio Aguinaldo National High School. *World Journal of Advanced Research and Reviews*, 19(1), 563–579. <https://doi.org/10.30574/wjarr.2023.19.1.1367>
- Geneta, M. F., & Sarmiento, M. B. (2023). Home learning environment and parent-teacher ecology towards academic performance and positive social behavior. *International Journal of Social Science, Humanities, and Multidisciplinary Research*, 2(7). <https://doi.org/10.58806/ijsshr.2023.v2i7n12>
- Greenhow, C., & Lewin, C. (2016). Social media and education: Reconceptualizing the boundaries of formal and informal learning. *Learning, Media and Technology*, 41(1), 6–30. <https://doi.org/10.1080/17439884.2015.1064954>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Hattie, J. (2015). The applicability of visible learning to higher education. *Scholarship of Teaching and Learning in Psychology*, 1(1), 79–91. <https://doi.org/10.1037/stl0000021>
- Huo, Z., Li, J., Li, R., Wang, G., Cheng, Z., & Ren, G. (2023). Promoting healthy sitting posture during study sessions with posture-based interaction smart learning environment. <https://doi.org/10.1109/ECBIOS57802.2023.10218556>
- Kaptich, P., Munyua, J., & Kiplangat, H. (2019). Influence of home environment through parental involvement on pupils' academic performance in public primary schools in Ainabkoi Sub-County, Kenya. <https://doi.org/10.46827/ejes.v0i0.2665>
- Khanolainen, D., Psyridou, M., Šilinskas, G., Lerkkanen, M.-K., Niemi, P., Poikkeus, A., & Torppa, M. (2020). Longitudinal effects of the home learning environment and parental difficulties on reading and math development across Grades 1–9. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.577981>
- Komlavathi, S., & Yasin, M. (2022). The relationship between home environment and self-management towards academic performance of private institution students in Kuala Lumpur. *Journal of Public Administration and Governance*, 12(4s). <https://doi.org/10.5296/jpag.v12i4s.20569>
- Mapigano, R. F. (2018). *The effects of home learning environment on academic achievements among primary school children in Tanzania: The case of Mbeya City* (Master's thesis, The Open University of Tanzania). <https://repository.out.ac.tz/1932/>
- Mugomba, A., Kiggundu, S. E. J., Musa, M., & Wamaungu, J. A. (2023). The contribution of parents' involvement towards students' academic performance at Ugandan Certificate of Education in public secondary schools. <https://doi.org/10.52690/jswse.v4i3.508>
- Mugumya, D., Basheka, B., Mwesigye, A., Atibuni, D. Z., Aduwo, J. R., & Ahimbisibwe, E. K. (2022). Parents' involvement and students' academic performance in Ryakasinga Centre for Higher Education–Sheema District, Uganda. *International Journal of Educational Administration and Policy Studies*. <https://doi.org/10.5897/IJEAPS2021.0713>
- Mugumya, D., Mwesigye, A., & Ahimbisibwe, E. K. (2023). Challenges and strategies of parental engagement among secondary school learners in Sheema District, Uganda. *African Journal of Education and Practice*, 10(1). <https://doi.org/10.47672/ajep.1375>
- OECD. (2019). *PISA 2018 results (Volume I): What students know and can do*. OECD Publishing. <https://doi.org/10.1787/5f07c754-en>
- Opoku, K., Somuah, D., Adjei, E. K., Adjei, E., Sam-Wiah, J., & Marfo, A. (2023). Home environment as a predictor of students' academic performance: A case of Agona Seventh-day Adventist Junior High School in Ghana. *East African Journal of Education and Social Sciences*, 4(1).
- Pecjo, R. F. (2023). The effect of COVID-19 on the academic performance in mathematics of the students at Tugatog National High School in the City Division of Malabon. <https://doi.org/10.56648/aide-irj.v2i1.34>
- Peng, S., Li, H., Xu, L., Chen, J., & Cai, S. (2023). Burden or empowerment? A double-edged sword model of the efficacy of parental involvement in the academic performance of Chinese adolescents. *Current Psychology*. <https://doi.org/10.1007/s12144-023-04589-y>
- Robinson, K. (2017). *Creative schools: The grassroots revolution that's transforming education*. Penguin Books.
- Rodríguez Fernández, A., Revuelta Revuelta, L., Sarasa Maya, M., & Fernández Lasarte, O. (2018). The role of parental socialization styles in school engagement and academic performance. *European Journal of Education and Psychology*, 11(2), 123–139. <https://doi.org/10.30552/ejep.v11i2.226>
- Rosyada, A., & Sundari, H. (2021). Learning from home environment: Academic writing course for EFL undergraduates through Google Classroom application. *Studies in English Language and Education*, 8(2). <https://doi.org/10.24815/SIELE.V8I2.18374>
- Sattar, T., Ullah, M., Rehman, A. U., & Ismail, H. (2020). Association of demographic predictors with multidimensional aspects of students' engagement and their academic performance in high schools of Southern Punjab, Pakistan. *Research in Education and Learning Innovation Archives*, 3(1). <https://doi.org/10.47067/real.v3i1.21>
- Selwyn, N. (2021). *Education and technology: Key issues and debates*. Bloomsbury Academic.
- Skwarchuk, S.-L., Douglas, H., Cahoon, A., LeFevre, J., Xu, C., Roy, É., Simms, V., Wylie, J., Maloney, E. A., Osana, H., & Susperreguy, M. (2022). Relations between the home learning environment and the literacy and mathematics

- skills of eight-year-old Canadian children. *Education Sciences*, 12(8), 513. <https://doi.org/10.3390/educsci12080513>
- Sonnenschein, S., Gursoy, H., & Stites, M. (2022). Elementary school children's home learning environments: Mathematics, reading, science, and written language. *Education Sciences*, 12(5), 313. <https://doi.org/10.3390/educsci12050313>
- Susperreguy, M., Jiménez Lira, C., Xu, C., LeFevre, J., Blanco Vega, H., Benavides Pando, E. V., & Ornelas Contreras, M. (2021). Home learning environments of children in Mexico in relation to socioeconomic status. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.626159>
- Thomas, S., & Mahida, A. (2022). Analysis of academic performance, study behaviour and factors influencing study behaviour among nursing students. *Indian Journal of Continuing Nursing Education*. https://doi.org/10.4103/ijcn.ijcn_24_21
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wijaya, T., Yu, B., Xu, F., Yuan, Z., & Mailizar, M. (2023). Analysis of factors affecting academic performance of mathematics education doctoral students: A structural equation modeling approach. *International Journal of Environmental Research and Public Health*, 20(5), 4518. <https://doi.org/10.3390/ijerph20054518>
- Wong, R., Ho, F., Wong, W., Tung, K., Chow, C., Rao, N., Chan, K., & Ip, P. (2018). Parental involvement in primary school education: Its relationship with children's academic performance and psychosocial competence through engaging children with school. *Journal of Child and Family Studies*, 27, 1547–1559. <https://doi.org/10.1007/s10826-017-1011-2>
- Yeager, D. S., & Dweck, C. S. (2020). Mindsets: A view from two eras. *Perspectives on Psychological Science*, 15(3), 481–496. <https://doi.org/10.1177/1745691620916957>
- Yeager, D. S., Purdie-Vaughns, V., Garcia, J., Apfel, N., Brzustoski, P., Master, A., Hessert, W. T., Williams, M. E., & Cohen, G. L. (2019). A culture of belonging improves persistence in STEM. *Journal of Personality and Social Psychology*, 117(4), 726–739. <https://doi.org/10.1037/pspi0000200>