

Home Learning Support and Parenting Style as Factors in the Academic Performance of Grade 1 Learners of Hinatuan North Central Elementary School, Schools Division of Surigao del Sur: A Descriptive-Correlational Approach

Emelyn G. Agan^{1*}, Dr. Anrey G. Antiquina¹

¹ Andres Soriano Colleges of Bislig, Inc., Andres Soriano Ave., Mangagoy, Bislig City, Philippines

* emelyn.agan@deped.gov.ph

Date Submitted:
August 25, 2026

Date Accepted:
September 20, 2026

Date Published:
October 09, 2026

DOI:
10.5281/zenodo.23262600

ABSTRACT

This study examined the relationship between home learning support, parenting style, and academic achievement among Grade 1 learners at Hinatuan North Central Elementary School, Schools Division of Surigao del Sur, during School Year 2025–2026. Employing a quantitative descriptive-correlational research design, the study involved 74 parents or guardians whose responses were analyzed alongside learners' academic achievement obtained from official school records. Data were gathered using structured questionnaires and analyzed through weighted mean, standard deviation, ranking, and Pearson product-moment correlation. Findings revealed that home learning support was very high ($M = 3.4500$, $SD = 0.6051$), with learning resources and study conditions

receiving the highest rating, while homework guidance and feedback ranked lowest. Parenting style was generally high ($M = 2.5240$, $SD = 0.5900$), with authoritative parenting obtaining the highest mean and permissive parenting the lowest. Learners demonstrated high academic achievement ($M = 90.1351$, $SD = 3.2993$), with 63.5% classified as Outstanding. However, correlation analysis revealed no statistically significant relationship between home learning support and academic achievement ($r = 0.0707$, $p = 0.5496$) or between parenting style and academic achievement ($r = 0.0968$, $p = 0.4118$). Both relationships were very weak and positive. The study concluded that although parents reported substantial learning support and structured parenting practices, these factors were not significantly associated with learners' recorded academic performance. The findings highlight the importance of strengthening home-school collaboration, improving parental guidance practices, and considering additional learner-related and school-related factors when developing educational support programs for early-grade learners.

Keywords: *Home Learning Support, Parenting Style, Academic Achievement, Grade 1 Learners, Parental Involvement, Descriptive-Correlational Research, Home-School Collaboration, Elementary Education*

INTRODUCTION

Academic achievement in the early grades is a critical educational concern because it reflects how well learners are developing the foundational literacy, numeracy, and classroom habits they need for later schooling. For Grade 1 learners in particular, weak early academic achievement can widen into long-term learning gaps if not addressed promptly. Global education monitoring has repeatedly emphasized that the earliest years of schooling are decisive for later achievement, especially in reading and mathematics, which

underpin performance in all other subjects (UNESCO Institute for Statistics [UIS], 2017; World Bank et al., 2022).

At the global level, the picture remains alarming. The UNESCO Institute for Statistics estimated that 617 million children and adolescents worldwide were not achieving minimum proficiency in reading and mathematics, including 387 million primary school-age children, and that 56% of children would fail to reach minimum proficiency by the end of primary school (UIS, 2017). More recently, the World Bank and its partners warned that 70% of 10-year-olds in low- and middle-income countries were unable to read and understand a simple text, up from 57% before the pandemic, showing how fragile foundational learning remains internationally (World Bank et al., 2022). These figures indicate that academic achievement in the early grades is not simply a local classroom issue but part of a continuing global learning crisis.

In Asia and the ASEAN region, regional assessment data also show that foundational academic achievement remains uneven. The SEA-PLM 2024 Main Regional Report reported that across participating Southeast Asian systems, 53% of Grade 5 learners met minimum proficiency in reading and 68% met minimum proficiency in mathematics, improving from 46% and 56%, respectively, in 2019. Yet the same regional release stressed that learning gaps remain substantial and that the region still faces urgent foundational learning challenges, especially among disadvantaged learners (SEA-PLM, 2026). Country comparisons also show wide variation in outcomes, with some systems performing far above the regional average and others lagging considerably, suggesting that home and school conditions may strongly shape academic achievement in the primary years.

In the Philippines, recent evidence points to persistent foundational learning difficulties. UNICEF Philippines reported that in SEA-PLM 2024, only 26 out of 100 Filipino Grade 5 learners reached higher proficiency levels in mathematics, up from 17 out of 100 in 2019, while reading also improved only modestly from 10 out of 100 to 14 out of 100 at the highest proficiency level (UNICEF Philippines, 2025). More concerningly, EDCOM 2 reported that only 30.52% of Grade 3 learners in the 2024 Early Language, Literacy, and Numeracy Assessment were rated “proficient” or “highly proficient,” meaning roughly 70% were still struggling with foundational reading and numeracy skills at a stage when these should already be consolidated (EDCOM 2, 2026). These national results underscore the importance of investigating factors associated with academic achievement as early as Grade 1, when the foundations of later proficiency are being formed.

At the Mindanao and local level, the urgency remains evident. In Caraga, DepEd Region XIII reported that mathematics scores in PISA improved from 306 in 2018 to 340 in 2022, yet these remained below the Philippine mean and still reflected substantial learning deficits across the region (Philippine News Agency, 2024). DepEd Caraga also acknowledged that many learners are already falling behind very early, noting that most Grade 3 learners in the region are two to three years behind curriculum expectations in reading and that nearly half of Grade 4 learners are performing only at Grades 1 to 2 levels in mathematics and literacy (DepEd Caraga, 2025). Within the Schools Division of Surigao del Sur, the division profile shows that Hinatuan North served 2,147 elementary learners, indicating a substantial early-grade population for whom foundational academic achievement is a pressing concern (DepEd Schools Division of Surigao del Sur, 2019). Although publicly available school-specific performance data for Hinatuan North Central Elementary School are limited, these regional and divisional indicators strongly justify examining Grade 1 learners’ academic achievement in this locale.

Against this backdrop, the present study considers home learning support and parenting style as important factors that may help explain differences in Grade 1 academic achievement. Recent literature suggests that home-based support, such as assistance with schoolwork, provision of a learning space, and parental encouragement, is associated with stronger elementary academic outcomes, although results vary by context and type of involvement (Wang & Li, 2024). Parenting style has likewise been linked to learner performance: a 2024 cross-sectional study of 384 senior elementary students in Henan, China found a significant relationship between parenting style and academic achievement ($B = -5.377$, $p < .001$), while a

Philippine correlational study involving 221 Grade 6 pupils in Misamis Oriental found significant relationships between authoritarian and authoritative parenting styles and pupils' academic achievement (Flores & Quirap, 2023; Wu et al., 2024). However, most existing studies focus on older learners, broader academic levels, or urban settings, and there remains limited localized quantitative evidence on how home learning support and parenting style relate specifically to the academic achievement of Grade 1 learners in a public elementary school in Surigao del Sur. This gap makes the present study necessary.

Literature Review

Home Learning Support

Conceptual Definition of Home Learning Support. Home learning support refers to the set of parent/guardian behaviors, routines, and home conditions that directly assist a child's learning outside school hours. In quantitative education research, it is commonly framed as a home-based component of parental involvement and the home learning environment, emphasizing measurable practices such as structuring study time, providing learning materials, monitoring schoolwork, and engaging with teachers to support learning progress (Kim, 2022; Erdem & Kaya, 2020). Within family-school partnership perspectives, home learning support is also treated as a multidimensional construct because different forms of support (e.g., routines versus homework help) can show different strengths and directions of association with achievement outcomes (Kim, 2022).

As a construct, home learning support is typically anchored on parental involvement frameworks that emphasize learning-at-home practices and home-school communication as key pathways through which families support academic outcomes (Kim, 2022). It is also aligned with home learning environment perspectives that view children's learning opportunities at home—such as availability of learning materials and the quality of learning routines—as measurable inputs that contribute to achievement (Naungayan et al., 2024). Empirical synthesis work further supports defining home learning support as a combination of supportive practices (e.g., expectations, encouragement, learning guidance) and home conditions (e.g., resources, study space) that can be quantified and examined as predictors or grouping variables in achievement studies (Erdem & Kaya, 2020; Kim, 2022).

Home learning support is commonly measured through parent/guardian self-report questionnaires using Likert-type response options, where items are organized into dimensions (e.g., routines, homework assistance, resources, communication) and scored using dimension means and an overall composite mean. In many quantitative designs, these mean scores are interpreted using categorical descriptors (e.g., high/moderate/low) based on predetermined cutoffs, enabling researchers to compare groups such as “high support” versus “low support” and test differences in academic outcomes using t-tests or ANOVA (Naungayan et al., 2024). Meta-analytic evidence indicates that measurement choices also matter, as different involvement/support dimensions can yield different effect sizes; therefore, studies increasingly report dimension-level results rather than treating home support as a single undifferentiated score (Kim, 2022; Erdem & Kaya, 2020).

Multiple mechanisms have been proposed to explain how home learning support influences achievement. First, structured routines and monitoring increase time-on-task and reduce distraction, supporting practice and consolidation of foundational skills. Second, learning assistance and feedback can function as scaffolding, helping young learners complete tasks correctly while developing confidence and persistence. Third, resource availability and supportive home conditions increase opportunities to practice literacy and numeracy. Finally, parent-teacher communication helps align expectations and interventions, allowing earlier remediation when learning gaps emerge (Kim, 2022). Quantitative synthesis also suggests that not all support is equally beneficial: parental expectations and aspirational support often show stronger positive effects, whereas highly controlling involvement (e.g., excessive monitoring without autonomy support) can show small negative associations in some contexts (Erdem & Kaya, 2020; Kim, 2022).

Related Literature and Studies on Home Learning Support. International evidence strongly supports the relevance of home learning support while also showing that effect sizes vary by involvement type. In a meta-analysis of parental involvement and achievement, Erdem and Kaya (2020) reported a positive but small overall mean effect, noting that parental expectations tended to show the largest positive effects while parental control showed a small negative effect. A large-scale review synthesizing decades of parental involvement research likewise reported overall positive effects and emphasized that effects differ by involvement dimension, with parent expectations/aspirations generally among the strongest and homework help showing mixed results depending on how it is enacted (Kim, 2022). More recent meta-analytic work focusing on specific achievement domains also indicates that parental involvement can be beneficial but is moderated by involvement type and contextual factors, reinforcing the need for dimension-based measurement rather than single-score interpretations (Wang et al., 2024).

In ASEAN and broader Asian settings, quantitative evidence commonly treats the home environment and parental support as key correlates of foundational learning outcomes. Regional learning reports highlight that learning resources and support at home are associated with achievement outcomes and that large disparities exist across learners depending on home contexts (SEA-PLM, 2020). Related regional analyses emphasize that home learning conditions and family support contribute to differences in learning performance, particularly where schools face resource constraints or where learners rely heavily on home support for practice and reinforcement of skills (SEA-PLM, 2020). These findings align with broader Asian evidence suggesting that home support is especially consequential for younger learners who require guided practice and consistent routines to develop foundational competencies (Kim, 2022).

Philippine quantitative studies—particularly those conducted during and after pandemic learning disruptions—frequently report that parents’ engagement and home learning conditions are associated with learners’ academic outcomes measured through school records. For example, a quantitative study on working parents’ involvement in modular distance learning examined parents’ involvement levels alongside learners’ academic achievement and applied correlational testing to determine the association between involvement and achievement outcomes (Naungayan et al., 2024). School-based Philippine studies in elementary contexts have similarly measured parents’ engagement in modular learning using Likert-scale instruments and related these measures to learners’ recorded academic achievement, commonly using descriptive statistics and correlational or group-comparison analyses to interpret outcomes (Department of Education, 2021). Related local studies also examine home environment measures alongside school performance records and use quantitative procedures (e.g., mean comparisons and significance tests) to interpret how home conditions correspond with achievement patterns (Fuentes, 2024).

Home learning support generally shows a positive association with academic achievement, but the strength of effects is commonly described as small-to-moderate and highly dependent on the type of support measured. Expectation-setting and encouragement tend to show more consistent positive associations, while homework help can produce mixed results depending on whether it functions as supportive scaffolding or controlling interference (Erdem & Kaya, 2020; Kim, 2022). Contextual moderators frequently noted in the literature include socioeconomic status, parental education, learners’ grade level, and the learning modality (e.g., face-to-face versus distance learning), which can strengthen or weaken the observed relationships (Naungayan et al., 2024; SEA-PLM, 2020). These patterns justify treating home learning support as multidimensional in quantitative work and support comparative analyses that examine whether academic achievement differs across high versus low support groupings, particularly in early grades where foundational learning is most sensitive to home routines and assistance (Kim, 2022).

Dimensions of Home Learning Support. The dimensions of Home Learning Support are presented because parental support at home is a multidimensional construct, not a single action. Breaking it into clear dimensions helps quantify specific, observable areas of support (e.g., routines, learning assistance, resources, and home–school communication) and allows more accurate interpretation of which aspects are

strong or weak and how they may relate to learners' academic achievement (Kim, 2022; Otero-Mayer et al., 2025).

Structure of Study Routines at Home. Study routines at home refer to the regular, planned, and consistent patterns that structure a child's learning-related behaviors outside school hours. In quantitative research, this dimension is typically operationalized through indicators such as (a) consistency of a daily study schedule, (b) clear study-time rules, (c) bedtime routines that support learning readiness (sleep regularity and evening structure), and (d) parent management of distractions (e.g., limiting screens/noise during study time) (Lam et al., 2023; Mindell et al., 2025). Routine-related indicators are treated as measurable because they reflect predictable learning opportunities and time-on-task, which are essential for young learners who require structure to practice foundational skills consistently (Lam et al., 2023).

Recent quantitative evidence supports the value of routines as part of home-based learning support. In a Philippine elementary context, Butalid et al. (2025) used a descriptive-correlational design with Grade 1 parents ($n = 51$) and analyzed data using weighted mean, chi-square, and ANOVA; their study emphasized "learning at home" routines as a measurable parental involvement component, but reported an insignificant relationship between parental involvement and Grade 1 academic achievement during the transition back to face-to-face classes (Butalid et al., 2025). This type of evidence highlights that routine-related support is not automatically predictive in all contexts and may depend on the quality of routines or how they are enacted. In early childhood research, bedtime routine interventions have also shown measurable behavioral shifts that strengthen learning readiness behaviors; for example, Mindell et al. (2025) reported that 85% of caregivers completed both sessions of a bedtime routine intervention and that intervention families were more likely to integrate reading into the bedtime routine, indicating that routine structure can be improved through targeted guidance (Mindell et al., 2025). While this evidence is not always reported directly as grades, it supports the idea that routines can be quantitatively strengthened and may plausibly affect achievement outcomes when consistently implemented.

Homework/Learning-at-Home Assistance. Homework/learning-at-home assistance refers to parents' direct support for school tasks at home, including guiding the child in understanding instructions, checking outputs, giving explanations, and reinforcing practice. Quantitative literature strongly distinguishes supportive assistance (e.g., autonomy support and constructive guidance) from controlling or intrusive help (e.g., over-directing, pressuring, or taking over tasks), because these two forms often show different relationships with achievement outcomes (Xu et al., 2024; Gordeeva et al., 2025). This distinction is especially important in early grades because young learners benefit from scaffolding, but excessive control can reduce independence and learning motivation over time (Xu et al., 2024).

Meta-analytic evidence provides clear quantitative patterns regarding homework involvement. Xu et al. (2024) conducted a three-level meta-analysis and reported that student achievement was positively related to parental autonomy support, but was unrelated to other homework involvement dimensions such as content support, parental control, frequency of help, and mixed involvement, showing that "how" parents help matters more than "how much" (Xu et al., 2024). Their analysis also reported that the association between parental homework involvement and achievement was negative for elementary school students, highlighting that frequent or controlling involvement may occur more when children are struggling and may not necessarily translate into better achievement (Xu et al., 2024). Complementing this, Gordeeva et al. (2025) used structural equation modeling and reported that parental autonomy support showed a clear positive effect on academic achievement, with the relationship partially mediated by autonomous homework motivation and productive homework behavior (Gordeeva et al., 2025). These findings support measuring homework assistance in ways that separate autonomy-supportive help from controlling involvement, especially when linking the dimension to academic achievement.

Availability of Home Learning Resources and Study Conditions. Home learning resources and study conditions refer to the physical and material supports that enable learning at home, commonly measured through indicators such as availability of books/materials, a quiet study space, adequate lighting,

reduced noise, and access to learning tools appropriate for the child's age. Quantitative research often treats these indicators as part of the home learning environment because they represent opportunity-to-learn conditions that can support practice, reading exposure, and sustained engagement (Lobo et al., 2025; Tan et al., 2022). For younger learners, resources are frequently framed as foundational inputs for early literacy and numeracy development.

Evidence from a large cross-sectional study in South India supports the role of resources using clear thresholds and measurable outcomes. Lobo et al. (2025) analyzed data from 940 mother-child dyads (children aged 4–8) and reported that a stimulating home-learning environment—characterized by the availability of ≥ 6 age-appropriate books, higher caregiver engagement, and higher overall home environment scores—was linked to better early language and numeracy outcomes, using multilevel linear regression adjusted for household, maternal, and child factors (Lobo et al., 2025). In Philippine public elementary schools, Fuentes (2024) examined home environment and academic achievement using school performance records and a home environment scale with a relatively large sample (385 students and 185 teachers), supporting the continued use of home environment indicators as measurable correlates of achievement in local contexts (Fuentes, 2024). While effect sizes vary by setting and measure, these studies justify including resource and condition indicators as a core dimension in home learning support tools.

Parent-Teacher/School Communication and Monitoring. Parent-teacher/school communication and monitoring refer to parents' regular interaction with teachers and the school regarding the child's progress, behavior, and performance, along with parents' tracking of school requirements and follow-through on teacher feedback. This dimension is measurable through indicators such as frequency of communication, responsiveness to teacher feedback, attendance in conferences/meetings, checking notes/announcements, and monitoring learner progress (Gruezo, 2025; Tan et al., 2022). In quantitative research, this dimension is often examined as part of parental involvement, where communication functions as a channel for coordination and early intervention.

Quantitative evidence provides measurable indicators that can guide how this dimension is operationalized. In a Philippine kindergarten-focused study based on teacher perceptions, Gruezo (2025) reported that parent involvement in performance monitoring was “observed,” with Parent-Teacher Communication having the highest mean ($M = 3.37$, $SD = 0.458$), followed by Responsiveness to Teacher's Feedback ($M = 3.26$, $SD = 0.507$), and Support for Home-based Learning ($M = 3.06$, $SD = 0.516$), showing that communication behaviors can be measured reliably through mean-based interpretations (Gruezo, 2025). In a broader parental involvement study using regression modeling, a study on PTA support reported a statistically significant positive relationship between parental/association support and academic achievement ($\beta = 0.22$, $p < .001$), with PTA support explaining 12% of the variance in achievement ($R^2 = 0.12$), demonstrating how parent-school engagement variables can yield quantifiable contributions to achievement outcomes (IJRISS, 2025). These findings support including communication and monitoring indicators and justify analyzing achievement differences across higher versus lower levels of this dimension.

Parenting Style

Conceptual Definition of Parenting Style. Parenting style refers to the relatively consistent pattern of parent-child interaction that characterizes how parents provide warmth, responsiveness, control, and guidance in raising children. In quantitative developmental and education research, parenting style is commonly explained using the responsiveness-demandingness framework, which categorizes parents' overall approach into three broad styles: authoritative (high responsiveness, high demandingness), authoritarian (low responsiveness, high demandingness), and permissive (high responsiveness, low demandingness) (Bedoya-Valderrama et al., 2025; Stewart, 2025). These styles are treated as meaningful predictors or grouping variables because they represent stable caregiving climates that shape children's

motivation, self-regulation, and learning behaviors, which can translate into measurable differences in academic outcomes (Hayek et al., 2022; Xia et al., 2023).

Authoritative parenting is typically described as warm, supportive, and autonomy-encouraging while maintaining clear expectations and consistent rules. Authoritarian parenting emphasizes strict obedience, high control, and punitive discipline with limited warmth or explanation, while permissive parenting is characterized by warmth but low demands, fewer rules, and inconsistent limit-setting (Bedoya-Valderrama et al., 2025; Stewart, 2025). Quantitative evidence suggests these categories differ in how they relate to achievement pathways: authoritative parenting is often linked to stronger learning behaviors and higher performance, whereas authoritarian and permissive patterns are more frequently associated with weaker academic outcomes or less adaptive learning behaviors, although effects can vary by context and measurement (Cupar, 2025; Hayek et al., 2022).

Parenting style is commonly measured using Likert-type scales such as the Parenting Styles and Dimensions Questionnaire (PSDQ) and related instruments that produce dimension scores (authoritative, authoritarian, permissive) and, in some studies, allow categorical classification based on the highest/dominant style score (Bedoya-Valderrama et al., 2025; Stewart, 2025). In quantitative reporting, parenting style is typically summarized using mean scores per dimension and an overall interpretation (e.g., higher authoritative mean indicates greater use of authoritative practices), then examined through correlations, regressions, or group comparisons (t-tests/ANOVA) against academic outcomes (Hayek et al., 2022; Xia et al., 2023). Recent psychometric work continues to evaluate factor structure and reliability of PSDQ-type measures across samples, supporting their use for dimension-based comparisons and modeling in research (Bedoya-Valderrama et al., 2025; Stewart, 2025).

Related Literature and Studies on Parenting Style. International evidence (2020–2026) generally supports authoritative parenting as beneficial and authoritarian/permissive patterns as potentially less advantageous for achievement outcomes, though magnitudes vary. In a prospective study of Lebanese adolescents ($n = 345$), academic achievement at follow-up had a reported mean of 12.89 ($SD = 2.13$) on a 20-point scale, and multivariate results showed that, relative to authoritative parenting, authoritarian parenting had a significant negative direct effect on achievement (effect = -0.62 , $p = .020$), permissive parenting also showed a significant negative direct effect (effect = -0.64 , $p = .027$), and neglectful parenting showed a significant negative direct effect (effect = -0.73 , $p = .016$) (Hayek et al., 2022). In a cross-national analysis across ten Southeast European countries ($N = 10,909$), authoritative parenting at the country level was positively associated with academic outcomes, while authoritarian parenting was negatively associated with both academic outcomes and permissive parenting was negatively associated with educational attainment, with macro-level moderation by economic development (Cupar, 2025). These findings collectively indicate that parenting style can be quantified and linked to measurable academic outcomes through regression-based analyses and cross-context comparisons (Hayek et al., 2022; Cupar, 2025).

Asian evidence also supports measurable pathways between parenting style and academic outcomes, including early academic skills. In a study of Chinese preschoolers ($n = 307$), authoritative parenting positively predicted children's pre-academic skills ($\beta = 0.24$, $t = 4.29$, $p < .001$) and also positively predicted approaches to learning ($\beta = 0.23$, $t = 4.04$, $p < .001$), while approaches to learning strongly predicted early academic skills ($\beta = 0.47$, $t = 9.20$, $p < .001$), indicating a statistically supported mechanism by which parenting relates to early learning outcomes (Xia et al., 2023). In Pakistan, structural modeling among secondary students found authoritative parenting significantly predicted self-regulated learning ($\beta = 0.489$, $p < .001$) and permissive parenting predicted self-efficacy ($\beta = 0.326$, $p = .001$); self-regulated learning strongly predicted academic accomplishment orientation ($\beta = 0.666$, $p < .001$), which reflects an achievement-related outcome construct measured quantitatively in the study (Hassan et al., 2022). Together, these studies illustrate that parenting style can show measurable direct and indirect effects on academic outcomes and achievement-related behaviors using regression/SEM approaches in Asian contexts (Hassan et al., 2022; Xia et al., 2023).

Philippine quantitative work frequently examines parenting style using survey instruments and links it to academic outcomes drawn from school averages or subject grades. In Zambales, a study involving 244 parent respondents reported a mean academic achievement of 90.71 (“Very Satisfactory”) for Grade 12 learners in Social Science and found a very low positive correlation between parenting styles and academic achievement ($r = 0.058$) that was not statistically significant ($p = .363$) (Catipay, 2023). Another Philippine study in Iligan City examined parenting styles and academic achievement using learners’ overall average during the second quarter and employed a quantitative design to determine the influence of parenting styles on achievement outcomes (Alferez, 2024). A Manila-based quantitative conference paper likewise examined authoritative and permissive parenting styles in relation to academic achievement among Filipino students, reinforcing continued local interest in style-based groupings and achievement outcomes (Banayad et al., 2024). Taken together, Philippine studies indicate that parenting style can be operationalized and analyzed quantitatively, but findings may vary across age groups, settings, and outcome measures, underscoring the need for context-specific evidence in early grades.

A common pattern is that authoritative parenting tends to be associated with more favorable academic outcomes, while authoritarian and permissive parenting more often show negative or weaker associations; however, results are not uniform across contexts, age groups, and measurement approaches (Cupar, 2025; Hayek et al., 2022). Studies using regression and mediation frequently show that parenting style effects can operate through learning-relevant mechanisms such as approaches to learning, self-regulation, and self-efficacy, which in turn predict achievement outcomes (Hassan et al., 2022; Xia et al., 2023). At the same time, some Philippine findings report very weak or non-significant relationships between parenting style and academic achievement, suggesting potential moderation by context, developmental stage, grading practices, or the specificity of the outcome measure used (Catipay, 2023). These mixed results support the use of an approach that focuses on whether academic achievement differs across parenting style groupings, rather than assuming a uniform predictive relationship in all settings.

Dimensions of Parenting Style. A dimension-based presentation of parenting style is used because the three styles represent distinct patterns of responsiveness and control that can be measured separately and then compared in relation to learners’ academic outcomes. Treating authoritative, authoritarian, and permissive parenting as separate dimensions supports clearer interpretation, since each style reflects different parenting behaviors and can show different statistical patterns with achievement across studies (Hayek et al., 2022; Xia et al., 2023).

Authoritative Parenting. Authoritative parenting is generally characterized by high warmth and responsiveness combined with clear expectations and consistent limit-setting. Common measurable indicators include (a) parental warmth and emotional support, (b) reasoning and explanation of rules, (c) consistent limits and monitoring, and (d) autonomy support (encouraging independence while guiding behavior) (Hayek et al., 2022; Xia et al., 2023). In quantitative studies, authoritative parenting is often interpreted as the most adaptive style because it supports self-regulation and learning engagement—skills that can translate into better academic outcomes (Hassan et al., 2022).

Recent quantitative findings show positive links between authoritative parenting and achievement-related outcomes. Among Chinese preschool children ($n = 307$), authoritative parenting showed a positive relationship with children’s pre-academic skills (literacy and numeracy) and was examined alongside approaches to learning, where approaches to learning also positively related to pre-academic skills and showed mediation effects across SES levels (Xia et al., 2023). In a Lebanese prospective study ($n = 345$), authoritative parenting served as the comparison reference, and non-authoritative styles showed significantly lower academic achievement relative to authoritative parenting, supporting the notion that authoritative parenting is associated with more favorable achievement outcomes (Hayek et al., 2022). In Pakistan (secondary level), authoritative parenting significantly predicted self-regulated learning ($\beta = 0.489$, $p < .001$), and self-regulated learning strongly predicted academic achievement orientation ($\beta =$

0.666, $p < .001$), indicating a statistically supported pathway from authoritative parenting to achievement-related outcomes through self-regulation (Hassan et al., 2022).

Authoritarian Parenting. Authoritarian parenting is typically defined by high control and strict enforcement of rules, with comparatively low responsiveness and limited autonomy support. Measurable indicators often include (a) strict control and demand for obedience, (b) punitive or harsh discipline, (c) low encouragement of child autonomy, and (d) limited reasoning/explanation of rules (Hayek et al., 2022; Hassan et al., 2022). In education research, authoritarian patterns are often examined because they may produce short-term compliance but can undermine motivation, self-regulation, and engagement—factors closely tied to academic outcomes (Xia et al., 2023).

Quantitative findings commonly show negative associations between authoritarian parenting and achievement, though context matters. In the Lebanese prospective study ($n = 345$), authoritarian parenting showed a significant negative direct effect on academic achievement compared with authoritative parenting (effect = -0.62 , $p = .020$) (Hayek et al., 2022). In the Chinese preschool study ($n = 307$), authoritative parenting was highlighted as positively related to pre-academic skills after controls, while the study's modeling framework supports the broader pattern that learning-related behaviors (approaches to learning) function as key mediators between parenting processes and early academic skills (Xia et al., 2023). Philippine evidence can be mixed or weak depending on outcome measures and age group; for instance, a Zambales study on senior high school learners reported a very low positive, non-significant correlation between parenting styles and academic achievement ($r = 0.058$, $p = .363$), suggesting that style–achievement relationships can vary by context and measurement approach (Catipay, 2023).

Permissive Parenting. Permissive parenting is generally characterized by high warmth but low demands and weak enforcement of rules. Indicators commonly include (a) leniency and few limits, (b) inconsistent discipline, (c) low monitoring of behavior and routines, and (d) high allowance of child choice without structure (Hayek et al., 2022; Xia et al., 2023). In quantitative research, permissiveness is frequently examined because low structure and inconsistent limit-setting may reduce children's practice routines and self-discipline, which can affect learning behaviors linked to achievement outcomes (Hassan et al., 2022).

Recent studies often show permissive parenting as negatively associated with achievement relative to authoritative parenting, although some pathways differ by setting and outcome type. In the Lebanese prospective study ($n = 345$), permissive parenting had a significant negative direct effect on academic achievement compared with authoritative parenting (effect = -0.64 , $p = .027$) (Hayek et al., 2022). In the Chinese preschool study ($n = 307$), the modeling results emphasize that approaches to learning are strongly related to pre-academic skills and mediate parenting–skills relationships across SES levels, underscoring that parenting patterns matter to early academic skills through learning behaviors (Xia et al., 2023). Philippine findings can also show weak or non-significant overall relationships depending on the population and measures used; Catipay (2023), for example, reported very low and non-significant associations between parenting styles and academic achievement ($r = 0.058$, $p = .363$), highlighting the importance of context-specific evidence and careful operationalization of parenting style dimensions (Catipay, 2023).

Academic Achievement

Conceptual Definition of Academic Achievement. Academic achievement refers to learners' measurable attainment of intended learning outcomes, typically expressed through quantifiable indicators that summarize performance in school tasks and assessments. In quantitative education research, academic achievement is commonly treated as an outcome variable represented by either teacher-assigned grades (e.g., grade point average or general average) or standardized achievement tests, because these indicators allow comparison across learners and the application of statistical analysis (Sideridis et al., 2023). Recent review literature likewise recognizes academic achievement as a multifaceted construct that can be operationalized through objective score-based indicators such as GPA/grades and test scores, depending on the measurement purpose and context (Paterna et al., 2024).

In basic education research, academic achievement is frequently defined as performance outcomes that capture the quality of learners' academic work and goal attainment, operationalized through grades/marks (e.g., quarterly grades, subject averages, general average/GPA) and/or standardized test scores (Sideridis et al., 2023). Across empirical syntheses, academic achievement is also described in terms of the specific metric used, with studies commonly reporting it as grade point average (GPA), self-reported grades, or test scores, reflecting the dominant measurement traditions in quantitative research (Paterna et al., 2024).

In records-based measurement, academic achievement is taken directly from official school documents such as quarterly grades per learning area and the computed general average for the grading period. This operationalization is widely used in quantitative studies because it relies on routinely generated assessment data rather than perception-based reporting, and because computation and reporting follow policy-guided assessment and grading procedures in the education system (Department of Education, 2020). In the Philippine context, policy issuances on grading and recognition explicitly reference the general average as an official achievement indicator with defined cutoffs (e.g., 90–94, 95–97, 98–100 for honors distinctions), reinforcing the use of general average as a valid school-record measure of achievement (Department of Education, 2021).

In early grades, academic achievement is closely tied to foundational literacy and numeracy development, because early competence in reading and number concepts enables learning across content areas and predicts later academic outcomes. Longitudinal evidence from low- and middle-income contexts supports this predictive relationship: in a Grade 2 follow-up study ($N = 597$), school-entry math skills significantly predicted end-of-Grade 2 reading and math achievement, and early reading skills predicted end-of-Grade 2 reading achievement after controlling for socioeconomic and contextual factors (Ndijuye et al., 2024). Large-scale international evidence likewise highlights early skills as important determinants of later achievement patterns; for example, TIMSS-based modeling work reports that early literacy skills can exert stronger effects on later mathematics achievement than early numeracy skills in some cross-country datasets, emphasizing that early literacy and numeracy foundations are measurable pathways to later achievement (Chang, 2023). From a proficiency perspective, education systems also quantify early learning through the proportion of learners reaching minimum proficiency in reading and mathematics as part of SDG monitoring, reflecting the importance of early-grade achievement as a measurable system outcome (UNESCO Institute for Statistics, 2021).

Quantitative studies commonly present achievement using descriptive statistics (mean and standard deviation) to summarize typical performance and variability within a group. When comparing groups, researchers often report mean differences tested through t-tests or ANOVA, alongside p-values to indicate statistical significance and effect sizes to describe practical magnitude. In education research guidance, the standard deviation is emphasized as a measure of score spread around the mean, while effect size is described as a measure of the strength or magnitude of an impact on an outcome (Institute of Education Sciences, 2021). In large-scale reporting, achievement is also expressed using proficiency levels or bands, reporting the percentage of learners who meet minimum proficiency thresholds in reading and mathematics, allowing interpretation in terms of how many learners reach expected standards rather than only average scores (UNESCO Institute for Statistics, 2021).

Related Literature and Studies on Academic Achievement. International research consistently shows that early learning attainments are measurable predictors of later academic outcomes and that gaps appear early when foundational skills are not established. Using TIMSS-related data and moderated mediation modeling, Chang (2023) reported that early literacy skills had stronger direct effects on Grade 4 mathematics achievement than early numeracy skills and that students' confidence in mathematics emerged as the strongest predictor of Grade 4 mathematics scores, highlighting that early foundational competencies and learner dispositions jointly shape later achievement. In a longitudinal study from a low-income context, Ndijuye et al. (2024) tracked children from school entry and found that early reading and early mathematics skills at baseline significantly predicted later learning achievement, based on a cohort of 597 children (mean

age = 6.34 years), reinforcing that early measurable competencies explain later achievement differences across learners. Large-scale global monitoring further quantifies the extent of early achievement risk: the World Bank (2022) reported that learning poverty in low- and middle-income countries reached 57% in 2019 (nearly 6 out of 10 children unable to achieve minimum literacy proficiency by age 10), with Sub-Saharan Africa reported at 86%, emphasizing the magnitude of foundational learning deficits that often translate into low academic achievement later.

Regional and Asian evidence highlights substantial variation in proficiency distributions and emphasizes the role of home learning conditions. The SEA-PLM 2019 Main Regional Report quantified performance bands in reading literacy across participating Southeast Asian systems, reporting that 29% of Grade 5 learners were in Band 6 and above (proficient readers), while 21% were in Band 2 and below (limited to recognizing single familiar words), demonstrating sizable achievement stratification within the region. In China, Xia et al. (2023) examined preschool children's pre-academic skills (early literacy and numeracy) and found statistically significant pathways linking parenting processes and approaches to learning to pre-academic outcomes, with reported mediation effects varying by socioeconomic status (e.g., indirect effects with bootstrapped confidence intervals). In another Asian context, Tan et al. (2022) analyzed matched parent-child data during COVID-related school suspension and identified parental involvement profiles using latent profile analysis; in their matched sample (186 primary and 932 secondary students), profiles characterized by stronger home monitoring and support were associated with higher online learning self-efficacy and better socioemotional regulation indicators, suggesting measurable learning-related outcomes vary with parental support patterns.

Philippine evidence similarly demonstrates large foundational learning gaps and measurable improvements following interventions. The World Bank (2022) Learning Poverty brief for the Philippines reported that 91% of children at late primary age were not proficient in reading (adjusted for out-of-school children), indicating severe foundational deficits that can undermine academic achievement across grade levels. In PISA 2022 reporting, the OECD (2023) indicated that Philippine learners' mean scores were 355 in mathematics, 347 in reading, and 356 in science, reinforcing persistent national achievement challenges when benchmarked internationally. More recent national reporting on early-grade literacy interventions shows measurable shifts: DepEd data reported by the Philippine Information Agency indicated that "low-emerging readers" dropped from 51,537 to 1,871 nationwide (a 96% decrease), reflecting quantifiable improvement linked to remediation initiatives and emphasizing the policy focus on foundational achievement recovery.

Across international, regional, and Philippine evidence, three numerical patterns are consistent. First, foundational deficits are widespread and measurable at scale (e.g., learning poverty estimates such as 57% across low- and middle-income countries and 91% in the Philippines), indicating many learners do not reach minimum literacy proficiency by late primary age (World Bank, 2022). Second, ASEAN/Asian proficiency distributions show that only a minority of learners reach higher proficiency bands while sizeable proportions remain in low bands (e.g., 29% at Band 6+ and 21% at Band 2 and below in SEA-PLM), reflecting early achievement stratification (SEA-PLM, 2020). Third, predictor-focused studies consistently indicate that early literacy/numeracy skills and home-related processes (monitoring, learning support profiles, parenting processes) are linked to later measurable outcomes, though the strength and pathway may vary by context and outcome metric (Chang, 2023; Tan et al., 2022; Xia et al., 2023).

While grades and general averages are practical indicators of academic achievement, validity depends on construct alignment, consistency of grading practices, and policy implementation. Arencibia Alemán et al. (2024) examined discrepancies between teacher-assigned grades and construct-equivalent written exams and reported that, although written exams were the most important predictor of grades, other discrepancy sources could contribute substantially—up to 36% of the explained variance increases in their dominance analyses—showing that non-achievement elements, measurement issues, and contextual factors can affect grades as an achievement measure. In the Philippine setting, policy-guided grading procedures

support clearer interpretation of quarterly grades and general averages when studies specify the grading period and computation basis, especially under standardized assessment and grading policies (Department of Education, 2020).

Differences in Academic Achievement by Home Learning Support Groups

Quantitative studies that compare “high” versus “low” home learning support commonly form groups by (a) median split (scores above the median = high; below = low), (b) quartiles/tertiles (top 25% vs bottom 25%, or highest vs lowest thirds), or (c) instrument-based cutoffs (predefined ranges mapped to descriptors such as high/moderate/low). These approaches are typically applied to Likert-scale composites or dimension means, especially when researchers intend to run independent-samples t-tests or one-way ANOVA for group comparisons (Huh, 2025; Sayili et al., 2024). At the same time, recent methodological evidence cautions that categorizing continuous scale scores (e.g., splitting into high/low) may reduce statistical power and distort estimates, so researchers are encouraged to justify cutoffs clearly and report the grouping procedure transparently (Hemmelstrand, 2025; Sayili et al., 2024).

Evidence comparing achievement across levels of home learning support often operationalizes “support” through observable home learning environment indicators (e.g., books, caregiver engagement, routines) and compares outcomes across exposure groups. In a large cross-sectional study of children aged 4–8 ($N = 940$), Lobo et al. (2025) categorized households by availability of age-appropriate books and reported that 14% of children had no age-appropriate books while 55.2% had six or more books; the study then used multilevel linear regression (with clustered random effects and progressive adjustment models) and reported that a more stimulating home-learning environment (including ≥ 6 books and higher caregiver engagement) was linked to better early language outcomes and non-verbal reasoning, although not significantly associated with numeracy outcomes. While the analysis was regression-based rather than a simple t-test, it demonstrates a clear “grouped exposure” approach (book categories and stimulation levels) linked to measurable academic outcomes (Lobo et al., 2025).

In another quantitative approach that directly addresses “differences,” Kovács et al. (2024) examined whether academic achievement differs between pupils whose parents are “involved” versus “not involved,” using a survey of Grade 7–8 students ($N = 121$). The study framed achievement differences as part of its main research questions and reported group overrepresentation patterns for achievement-related outcomes (e.g., award receipt and participation indicators), supporting the use of categorical involvement groupings when examining achievement differences (Kovács et al., 2024).

Regional large-scale assessment reporting also provides a group-comparison logic by describing how achievement varies across levels of learning opportunities and supports, often through proficiency bands. SEA-PLM (2020), for instance, reports reading proficiency band distributions across participating Southeast Asian systems and highlights that achievement is not evenly distributed, with sizable shares of learners remaining in low bands and only a minority reaching the highest band, which supports the practice of examining achievement differences across differing levels of learning support and opportunity (SEA-PLM, 2020).

To align tightly with your study’s statistical plan (high vs low home learning support using t-test/ANOVA), the key is to (a) compute each parent’s composite mean (and/or dimension means), (b) define high/low groups using a justified rule (median split or predefined cutoffs), and (c) compare the mean academic achievement (from official records) between groups using an independent-samples t-test (or one-way ANOVA if more than two support-level categories are used), reporting group means, test statistic, p-value, and effect size (Huh, 2025; Sayili et al., 2024).

7.3 Studies showing non-significant differences and plausible explanations
Non-significant group differences can occur when achievement is influenced more strongly by other factors (e.g., school-level effects, baseline ability, SES), when the “high/low” grouping reduces variability by collapsing continuous scores, or when the support measure captures frequency rather than quality (Hemmelstrand, 2025; Sayili et al., 2024). In early grades especially, parent “help” can sometimes be reactive

(more help given when children are struggling), which can weaken or reverse simple group difference patterns unless quality of support is separated from control or over-involvement (Sayili et al., 2024).

Differences in Academic Achievement by Parenting Style Groups

Parenting style groups are commonly formed by (a) dominant-style classification (the highest mean among authoritative/authoritarian/permissive becomes the respondent's category), (b) threshold rules (meeting a cut score on a style dimension), or (c) cluster/latent class approaches that identify naturally occurring parenting profiles. These classifications allow researchers to compare academic achievement across three or more groups using one-way ANOVA with post hoc tests (e.g., Tukey HSD) (Nik Zulkifeli et al., 2024; Xia et al., 2023).

A study of senior elementary students in Henan, China ($N = 384$) quantified academic achievement as the average of scores in Chinese, mathematics, and English and reported an overall academic achievement mean of 87.26 ($SD = 4.04$). It also reported a t-test comparison by gender for academic achievement (male: $M = 87.38$, $SD = 3.75$; female: $M = 87.10$, $SD = 4.39$; $t = 0.68$, $p = .50$), demonstrating a standard group-mean reporting format, and it reported an ANOVA approach for group comparisons (including an ANOVA result showing no significant grade-level difference in academic achievement, $F = 0.85$, $p = .47$) (International Journal of Research and Innovation in Social Science, 2024). The same study reported parenting-style dimension relationships and regression results indicating that authoritarian and uninvolved styles had significant negative relationships with academic achievement (e.g., authoritarian $r = -.33$, $p < .001$; uninvolved $r = -.34$, $p < .001$), illustrating how style-based groupings and achievement outcomes are analyzed quantitatively in upper elementary samples (International Journal of Research and Innovation in Social Science, 2024).

In Malaysia, Nik Zulkifeli et al. (2024) examined parenting style categories using the Parental Authority Questionnaire and analyzed academic achievement categories using ANOVA with post hoc Tukey HSD. The study reported that parenting style (for the main male figure) was significantly associated with academic achievement ($p = .029$), and it used post hoc comparisons to identify which parenting-style groups differed significantly on learning-related outcomes (Nik Zulkifeli et al., 2024). While the paper summarized results primarily in terms of p-values and category distributions, it demonstrates the standard ANOVA/post hoc procedure used when comparing outcomes across authoritative, authoritarian, and permissive groups.

Evidence from early-childhood/early-primary contexts also supports style-linked differences in early academic skill outcomes. Xia et al. (2023), using Chinese preschool data ($n = 307$) and regression-based modeling, reported that authoritative parenting positively predicted pre-academic skills ($\beta = 0.24$, $p < .001$) and approaches to learning ($\beta = 0.23$, $p < .001$), while approaches to learning strongly predicted pre-academic skills ($\beta = 0.47$, $p < .001$), providing quantitative support that parenting style differences map onto measurable early academic outcomes through learning-behavior pathways (Xia et al., 2023).

Mixed or non-significant findings can occur because parenting style effects may be moderated by culture, SES, developmental stage, and outcome measurement (grades vs tests vs skill measures). Parenting style may also influence achievement indirectly through self-regulation, approaches to learning, or motivation, so simple group mean differences may be weaker unless mediators are included or the outcome measure is sensitive to early-grade learning behaviors (Nik Zulkifeli et al., 2024; Xia et al., 2023). This supports the need to interpret ANOVA results alongside contextual explanations and to report effect sizes where possible to distinguish “statistically significant” from “practically meaningful” differences (Hemelstrand, 2025; Sayili et al., 2024).

Synthesis of the Literature and Research Gap

Synthesis. Across the literature, home learning support and parenting style consistently emerge as home-based factors associated with measurable differences in children's learning outcomes, particularly

when outcomes are defined through grades, test scores, or early academic skill indicators. Meta-analytic evidence shows that parental involvement/home support tends to have a positive but small overall association with achievement, and that the strength depends on the type of support provided (e.g., expectations and autonomy-supportive practices tend to show stronger positive links than controlling involvement) (Erdem & Kaya, 2020; Xu et al., 2024). Parenting style findings likewise tend to favor authoritative patterns (warmth plus structure) as more consistently aligned with better achievement outcomes, while authoritarian and permissive patterns more often show weaker or negative links, although sizes vary by context and measures (Hayek et al., 2022; Xia et al., 2023). Overall, the evidence supports the idea that both “what parents do at home” (support dimensions) and “how parents generally parent” (style) can differentiate achievement outcomes, but the typical statistical magnitudes are often small-to-moderate and sensitive to measurement and context (Erdem & Kaya, 2020; Xu et al., 2024).

Internationally, large-scale monitoring continues to quantify foundational learning risks that translate into weak academic outcomes; learning poverty estimates have been reported at 57% in low- and middle-income countries, indicating widespread failure to reach minimum reading proficiency by around age 10 (World Bank, 2022). In ASEAN/Asian evidence, SEA-PLM reports show clear achievement stratification using proficiency bands, with only 29% of Grade 5 learners across participating systems reaching the highest reading band (Band 6+), while 21% remained in the lowest bands (Band 2 and below), demonstrating that large proportions of learners do not reach stronger proficiency levels (SEA-PLM, 2020). Within Asian empirical modeling, parenting and home processes show statistically significant pathways to early academic skills; for example, authoritative parenting predicted pre-academic skills in preschoolers ($\beta = 0.24$, $p < .001$) and approaches to learning ($\beta = 0.23$, $p < .001$), while approaches to learning predicted pre-academic skills ($\beta = 0.47$, $p < .001$) (Xia et al., 2023).

In the Philippines, the magnitude of foundational gaps is also reflected in learning poverty reporting, where 91% of children were reported as not proficient in reading at late primary age (World Bank, 2022). At the same time, Philippine-based parenting-style studies sometimes show weak or non-significant relationships depending on age group and measures; one study reported a very low correlation between parenting styles and academic achievement ($r = 0.058$, $p = .363$), suggesting that style–achievement links may not present as strong direct effects in some local samples or may require more sensitive outcome measures and better contextual controls (Catipay, 2023). These contrasts suggest a general consistency in the “direction” of evidence (home factors matter), but variability in “strength” and “detectability” depending on level (early grade vs older students), outcome type (skills/tests vs grades), and contextual moderators (SEA-PLM, 2020; Xia et al., 2023; Catipay, 2023).

Research Gaps. First, many studies emphasize upper elementary, secondary, or adolescent samples; fewer studies focus specifically on K–3 learners where foundational learning is most sensitive to home routines and caregiver scaffolding (Xia et al., 2023; Ndijuye et al., 2024). Second, some research uses self-reported grades or composite performance indicators, while fewer studies explicitly rely on official school records (quarterly grades and general averages) as the achievement source, which can limit measurement consistency and comparability (Arencibia Alemán et al., 2024). Third, many studies examine either home learning support or parenting style separately; fewer integrate both constructs in one framework to understand whether achievement differs across (a) levels of support and (b) parenting style categories, especially using a design that is explicitly (Erdem & Kaya, 2020; Hayek et al., 2022). Fourth, localized Philippine elementary evidence—particularly in settings outside highly urban contexts—remains limited, and findings may vary by community learning conditions, resource availability, and the grading policy context, which can affect whether significant differences are detected (Catipay, 2023; World Bank, 2022). Finally, inconsistencies persist in the literature, especially for homework help, where involvement can be beneficial when autonomy-supportive but neutral or negative when controlling, indicating the need for dimension-based measurement that separates “quality” from “frequency” of support (Xu et al., 2024).

Given the persistent foundational learning challenges reflected in international, regional, and Philippine indicators, and given the mixed empirical strength of home-based predictors across contexts, a study is warranted to determine whether Grade 1 learners' academic achievement differs when grouped by (a) level of home learning support and (b) parenting style categories. This approach is appropriate because it does not presume uniform predictive effects; instead, it tests whether meaningful achievement differences exist across clearly defined groups using official school records as the outcome basis. The resulting evidence can help clarify which home support conditions and parenting patterns are most associated with higher or lower achievement in early grades, thereby informing practical, context-sensitive strategies for strengthening home-school support for foundational learning.

Theoretical Framework

For this study, three theories provide a strong foundation for explaining the variables and their possible relationships: home learning support, parenting style, and academic achievement among Grade 1 learners.

The first is the Overlapping Spheres of Influence Theory by Epstein (2011). This theory explains that children's learning outcomes are shaped by the interactive and shared influence of the school, family, and community, and that student success improves when these spheres work in partnership. In the present study, home learning support (e.g., routines, homework guidance, learning resources, and parent-teacher communication) reflects the "family" sphere's direct contribution to learning. The theory supports the expectation that when parents provide structured learning support at home and sustain communication with teachers, children are more likely to experience consistent learning opportunities that translate into higher academic achievement (Epstein, 2011).

The second is Baumrind's Parenting Styles Theory by Baumrind (1966). This theory categorizes parenting into authoritative, authoritarian, and permissive styles, based on patterns of responsiveness and control. In this study, parenting style is treated as a stable home climate that influences children's learning behaviors, such as persistence, compliance with routines, self-control, and motivation. Authoritative parenting, which combines warmth with clear expectations, is theorized to promote adaptive learning behaviors that support achievement, while authoritarian and permissive approaches may weaken achievement through either excessive control or insufficient structure, depending on context (Baumrind, 1966).

The third is Ecological Systems Theory by Bronfenbrenner (1979). This theory explains that children's development and school outcomes are shaped by multiple nested systems, including immediate settings like the home and school (microsystem) and the connections between them (mesosystem). In the present study, academic achievement is understood as an outcome influenced by home learning conditions and parenting practices within the child's microsystem, as well as the quality of parent-teacher interaction within the mesosystem. This framework supports the idea that differences in academic achievement can emerge when children experience different levels of learning support and different parenting environments at home (Bronfenbrenner, 1979).

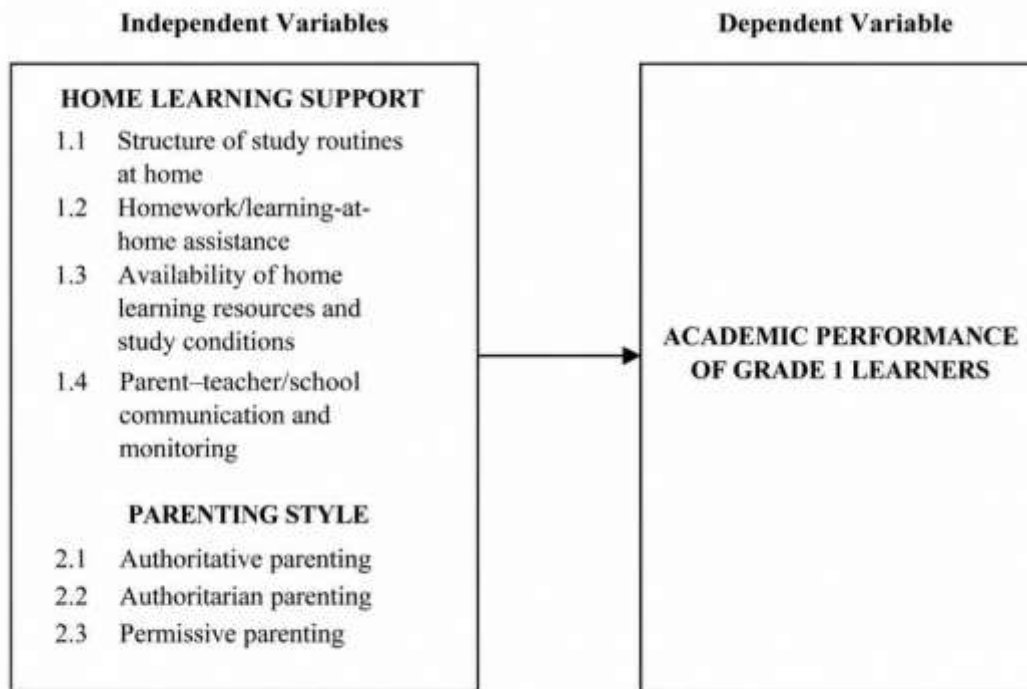


Figure 1. Schematic Diagram of the Study

Taken together, these theories provide a coherent basis for the study. Epstein's theory explains how learning support at home and communication with school reflect productive family-school partnership conditions. Baumrind's theory explains how parenting style shapes the behavioral and emotional climate that supports or hinders learning routines and discipline. Bronfenbrenner's theory explains why these home-based factors can translate into measurable differences in academic achievement, especially for young learners whose learning outcomes are highly sensitive to home and school environments (Epstein, 2011; Baumrind, 1966; Bronfenbrenner, 1979).

Statement of the Problem

This study aims to determine how the academic achievement of Grade 1 learners differs when grouped according to the level of home learning support and the parenting style of their parents/guardians at Hinatuan North Central Elementary School, Schools Division of Surigao del Sur, using a approach. Specifically, it seeks to answer the following questions:

1. What is the level of home learning support provided by parents/guardians as assessed in terms of:
 - 1.1. structure of study routines at home,
 - 1.2. homework/learning-at-home assistance,
 - 1.3. availability of home learning resources and study conditions, and
 - 1.4. parent-teacher/school communication and monitoring?
2. What is the parenting style of parents/guardians as assessed in terms of:
 - 2.1. authoritative parenting,
 - 2.2. authoritarian parenting, and
 - 2.3. permissive parenting?
3. What is the academic achievement of Grade 1 learners based on official school records?

4. Is there a significant relationship between home learning support and the academic achievement of Grade 1 learners?
5. Is there a significant relationship between parenting style and the academic achievement of Grade 1 learners?

METHODS

Research Design

This study employed quantitative research, which is appropriate when a researcher gathers structured numerical data and analyzes them statistically to describe conditions, examine patterns, and determine relationships among variables. Quantitative research typically uses closed-ended measures and numerical scoring, enabling results to be summarized objectively and interpreted through statistical procedures rather than narrative analysis (Creswell & Creswell, 2018; Bhandari, 2020).

More specifically, the study used a descriptive-correlational research design. A descriptive design is used to determine and present the current status, level, or condition of variables as they naturally exist, while a correlational design is used to determine whether a statistical relationship exists between variables without manipulating them. Correlational research is non-experimental in nature because it involves measuring variables and assessing the statistical association between them, rather than assigning participants to treatments or controlling conditions (Bhandari, 2021/2023; Stangor, 2014).

In this study, the descriptive component was used to determine the level of home learning support and parenting style among parents/guardians of Grade 1 learners. Home learning support was measured in terms of structure of study routines at home, homework/learning-at-home assistance, availability of home learning resources and study conditions, and parent–teacher/school communication and monitoring. Parenting style was measured in terms of authoritative parenting, authoritarian parenting, and permissive parenting. The academic achievement of Grade 1 learners was obtained from official school records (quarterly grades and/or general average) for School Year 2025–2026.

The correlational component of the design was then used to determine whether statistically significant relationships existed between (1) home learning support and academic achievement and (2) parenting style and academic achievement, based on the numerical data gathered through the structured parent/guardian questionnaire and the achievement data taken from school records. This approach is consistent with descriptive-correlational research where variables are described first and then examined for association through correlation analysis (Stangor, 2014; Bhandari, 2021/2023).

The use of a descriptive-correlational design is justified by the nature and objectives of the study. The study did not involve an intervention, treatment, or manipulation of parenting practices, home learning support, or learners' academic achievement. Instead, it aimed to describe the current levels of the home-based variables and to determine whether these variables are statistically associated with Grade 1 learners' academic achievement. Since the study intended to generate school-based baseline evidence and not to establish cause-and-effect relationships, the descriptive-correlational design was the most appropriate methodological choice (Creswell & Creswell, 2018; Bhandari, 2021/2023).

Research Locale

This study was conducted in the Caraga Region (Region XIII), a region in the northeastern part of Mindanao that is composed of the provinces of Agusan del Norte, Agusan del Sur, Surigao del Norte, Surigao del Sur, and the Dinagat Islands. Caraga is home to both urban and rural learning communities, with many schools serving geographically dispersed barangays and households where family support and home learning conditions play an important role in learners' early academic development.

Within Caraga, the study is situated in the Province of Surigao del Sur, which is administered for basic education through the Department of Education, Schools Division of Surigao del Sur (SDO Surigao

del Sur). The division supervises public elementary and secondary schools across the province and implements DepEd programs aimed at strengthening foundational learning outcomes, particularly in the early grades where learning routines and home-based support are essential for sustained progress.

Specifically, the study was conducted in the Municipality of Hinatuan, a coastal municipality in Surigao del Sur. Hinatuan serves learners from both the town proper and nearby communities, where parents and guardians commonly function as the primary home learning facilitators, especially for young learners who require routine, supervision, and consistent guidance.

The primary locale of the study is Hinatuan North Central Elementary School, a public elementary school in Hinatuan under the Schools Division of Surigao del Sur. The school was selected as the research locale because it has Grade 1 learners whose academic achievement can be obtained from official school records, and it provides an appropriate setting for gathering parent/guardian data on home learning support and parenting style as home-based factors that may be associated with learners' academic achievement.



Figure 2. Maps of the Philippines and Municipality of Hinatuan

Respondents of the Study

The respondents of this study were the parents/guardians of Grade 1 learners of Hinatuan North Central Elementary School, Schools Division of Surigao del Sur, during School Year 2025–2026. The Grade 1 learners were distributed across three (3) sections, namely Grade 1–Narra, Grade 1–Banaba, and Grade 1–Tindalo, with a total Grade 1 population of seventy-four (74) learners (Narra = 26, Banaba = 24, Tindalo = 24). In this study, parents/guardians served as the respondents because the independent variables—home learning support and parenting style—are home-based factors best reported by those who directly supervise and guide learners at home. The academic achievement of the Grade 1 learners, on the other hand, was obtained from official school records to ensure that the outcome measure was based on documented performance.

The study employed purposive sampling in identifying the target population, specifically the parents/guardians of Grade 1 learners enrolled at Hinatuan North Central Elementary School for School Year 2025–2026, because they directly matched the variables and objectives of the study. Following this, total enumeration was intended, wherein all parents/guardians from the three Grade 1 sections were invited to participate. The final number of respondents included only those who voluntarily participated and completed the questionnaire with complete and valid responses, as reflected in the encoded dataset used for statistical analysis.

To ensure the validity and relevance of the data, inclusion criteria were applied. Only parents/guardians who had a child officially enrolled in Grade 1 at Hinatuan North Central Elementary School during School Year 2025–2026, voluntarily participated, and submitted complete and valid questionnaire responses were included in the study. Parents/guardians who did not complete the instrument or submitted incomplete entries were excluded from the final dataset.

The respondents were required to accomplish a structured, adapted questionnaire that measured home learning support and parenting style. Only complete and valid responses were encoded and included in the statistical analysis.

The population and sample distribution of the respondents are presented in Table 1.

Table 1. *Respondents of the Study*

Parents/Guardians	Population	Sample
Grade 1–Narra	26	26
Grade 1–Banaba	24	24
Grade 1–Tindalo	24	24
Total Parent/Guardian-Respondents	74	74

Note. *The respondents were identified through purposive sampling (parents/guardians of Grade 1 learners), with total enumeration intended across the three Grade 1 sections. The table reflects the Grade 1 population distribution by section (Narra = 26, Banaba = 24, Tindalo = 24).*

Research Instrument

This study utilized a unified, adapted, and contextualized learner questionnaire designed to gather quantitative data on the three major variables of the study: student activities engagement, attendance, and classroom behavior. Quantitative instruments are appropriate when variables are measured through structured items and transformed into numerical scores for statistical analysis. In this study, the instrument was formatted as a matrix-type checklist using a four-point Likert scale, allowing the respondents to indicate the frequency of each behavior or experience in a standardized manner. The use of a structured self-report questionnaire is consistent with quantitative research because it permits systematic measurement, scoring, and comparison of responses across all respondents (Creswell, 2014; Siedlecki, 2020).

The instrument consisted of three parts. Part I measured Student Activities Engagement in terms of participation and involvement, commitment, effort and growth, and leadership, responsibility and school

belonging. Part II measured Attendance in terms of regular attendance and timeliness and attendance attitudes and self-management. Part III measured Classroom Behavior in terms of rule compliance, respect and responsibility, and self-control, cooperation and prosocial behavior. The final questionnaire contained 42 items, with 18 items for Student Activities Engagement, 12 items for Attendance, and 12 items for Classroom Behavior. Each item was rated on a four-point Likert scale: 4 – Always, 3 – Often, 2 – Sometimes, and 1 – Never. Responses were encoded and processed using an automated scoring workbook, where weighted means were computed to determine the level of each dimension and variable.

The Student Activities Engagement component of the instrument was conceptually adapted from established engagement frameworks, particularly the Student Engagement Instrument (SEI) developed by Appleton et al. (2006), which measures cognitive and psychological engagement among secondary learners. The Attendance component was based on attendance behavior frameworks that treat attendance as both a measurable outcome and a behavioral pattern influenced by motivation and self-management (Kearney, 2022). The Classroom Behavior component was adapted from behavior screening constructs, particularly the Strengths and Difficulties Questionnaire (SDQ) by Goodman (1997), focusing on conduct-related and prosocial behavior indicators within the classroom context.

To establish content validity, the research instrument was subjected to expert validation prior to its administration. The questionnaire was reviewed by qualified validators with expertise in education, research methodology, and instrument development. The validators examined the instrument in terms of clarity of instructions, appropriateness of language, relevance of items to the study variables, alignment with the defined dimensions, and overall suitability for Junior High School learners. Their comments, suggestions, and recommendations were carefully considered, and necessary revisions were incorporated to improve the quality and accuracy of the instrument. This process ensured that the items adequately represented the constructs being measured and were appropriate for the target respondents.

For reliability testing, the instrument was pilot-tested at Loyola National High School using selected learners from different grade levels who were not included in the actual respondents of the study. The pilot testing aimed to assess the internal consistency of the instrument and to determine whether the items reliably measured the intended constructs. The responses obtained from the pilot test were subjected to Cronbach's alpha analysis, which is a widely used statistical measure of internal consistency for Likert-scale instruments. The computed Cronbach's alpha coefficient indicated that the instrument demonstrated acceptable to high reliability, suggesting that the items were consistent in measuring the variables of student activities engagement, attendance, and classroom behavior. A Cronbach's alpha value of 0.70 or higher is generally considered acceptable in social science research, indicating that the instrument is reliable for data collection (Taber, 2018).

After undergoing validation and reliability testing, the final version of the instrument was administered to the 103 Junior High School learners of Bigaan National High School who served as the respondents of the study. The accomplished questionnaires were then encoded and processed using the prepared scoring workbook, and the resulting data were used for statistical analysis. Thus, the research instrument used in this study may be considered adapted, validated, pilot-tested, and reliability-tested, making it appropriate for gathering the data needed to answer the research problems.

Data Gathering Procedure

This study observed a systematic pre-data collection phase to ensure that the gathering of quantitative data would be ethical, organized, and aligned with school protocols. First, the researcher prepared and finalized the parent/guardian questionnaire on home learning support and parenting style, ensuring that the items were clear, culturally appropriate, and arranged in a matrix-type Likert-scale format to support standardized responses and numerical scoring (Creswell & Creswell, 2018). The researcher also prepared the consent forms and data coding sheet to ensure confidentiality and proper matching of parent/guardian responses with the Grade 1 learners' academic achievement data. Second, the researcher secured the necessary permissions from the Schools Division Superintendent and the school administration

of Hinatuan North Central Elementary School for School Year 2025–2026. Coordination was then conducted with the Grade 1 teachers/advisers of Grade 1–Narra, Grade 1–Banaba, and Grade 1–Tindalo regarding the schedule and the most feasible distribution-and-retrieval method for parent questionnaires. Finally, the researcher prepared the automated scoring workbook and checking protocols for completeness, ensuring that all encoded responses could be processed accurately for descriptive and correlational analysis (Siedlecki, 2020).

During the actual data gathering, the researcher implemented informed consent and administered the research instrument in a manner that did not disrupt school activities. Parents/guardians were oriented regarding the purpose of the study, the voluntary nature of participation, and the confidentiality of responses. Only those who provided consent were included. The questionnaires were then distributed to parents/guardians through the agreed school channel (e.g., via class advisers, scheduled meetings, or coordinated pick-up/return arrangements). Parents/guardians were given sufficient time to answer the questionnaire independently, after which the accomplished forms were collected and checked for completeness and legibility to minimize missing data.

In addition to the questionnaire, the academic achievement of Grade 1 learners was obtained from official school records (quarterly grades and/or general average) through authorized school personnel. To protect confidentiality, the researcher used a coding system rather than names when linking parent/guardian responses to the learners' achievement records, consistent with data privacy safeguards in educational research (Republic Act No. 10173, 2012). Only the necessary achievement data needed for analysis were retrieved, and access was limited to authorized parties.

After retrieving the accomplished questionnaires and the official academic achievement records, the researcher proceeded with data encoding, cleaning, and verification. Questionnaire responses were encoded into the automated scoring workbook, which generated dimension scores and overall scores for home learning support and parenting style based on the established scoring scheme. The researcher then conducted data checking procedures to identify incomplete responses, out-of-range entries, duplicated records, and mismatched codes between questionnaire data and achievement records. Only complete and valid responses were retained for final analysis.

Finally, the cleaned dataset was subjected to statistical treatment aligned with the Statement of the Problem. Descriptive statistics were used to determine the levels of home learning support and parenting style across their dimensions. Correlational analysis was then conducted to determine whether significant relationships existed between home learning support and academic achievement, and between parenting style and academic achievement. Results were summarized and reported in aggregate form to ensure confidentiality and to present findings as school-based evidence for strengthening home–school support practices for Grade 1 learners (Creswell & Creswell, 2018; Siedlecki, 2020).

Statistical Treatment

To answer Research Question 1 on the level of home learning support provided by parents/guardians in terms of structure of study routines at home, homework/learning-at-home assistance, availability of home learning resources and study conditions, and parent–teacher/school communication and monitoring, weighted mean and standard deviation were used. Rank ordering was also applied to identify the highest and lowest dimensions of home learning support.

To answer Research Question 2 on the parenting style of parents/guardians in terms of authoritative parenting, authoritarian parenting, and permissive parenting, weighted mean and standard deviation were used. Rank ordering was likewise applied to determine the highest and lowest parenting style dimensions based on the computed mean scores.

To answer Research Question 3 on the academic achievement of Grade 1 learners based on official school records, descriptive statistics were used. Specifically, the mean and standard deviation were computed to describe the overall academic achievement of the learners for the grading period covered by the study, based on the quarterly grades and/or general average reflected in school records.

To answer Research Question 4 on the significant relationship between home learning support and the academic achievement of Grade 1 learners, the Pearson product-moment correlation coefficient (Pearson r) was used to determine the strength and direction of the relationship between the overall home learning support score (and/or its dimension scores) and academic achievement at the 0.05 level of significance.

To answer Research Question 5 on the significant relationship between parenting style and the academic achievement of Grade 1 learners, the Pearson product-moment correlation coefficient (Pearson r) was likewise used to determine the strength and direction of the relationship between the parenting style scores (authoritative, authoritarian, permissive) and academic achievement at the 0.05 level of significance.

RESULTS AND DISCUSSIONS

Problem 1. What is the level of home learning support provided by parents/guardians in terms of the identified dimensions?

Table 1 presents the level of home learning support among the 74 parent/guardian-respondents in terms of the identified dimensions. The overall mean for home learning support was 3.4500 ($SD = 0.6051$), interpreted as Always / Very High. Among the dimensions, Availability of Home Learning Resources and Study Conditions obtained the highest mean (3.6284), while Homework/Task Guidance and Feedback obtained the lowest mean (3.2939). These results indicate that parents/guardians generally reported strong and consistent support for learning at home, aligning with literature that treats home learning support as a multidimensional form of parental involvement that can be quantified through routine, resource, assistance, and communication practices (Kim, 2022).

Table 1. *Summary of Home Learning Support Levels (n = 74)*

Dimension	Mean	SD	Interpretation	Rank
Structure of Study Routines at Home	3.3716	0.6440	Always / Very High	4
Availability of Home Learning Resources and Study Conditions	3.6284	0.5723	Always / Very High	1
Homework/Learning-at-Home Assistance (Literacy Support at Home)	3.4966	0.7292	Always / Very High	2
Homework/Task Guidance and Feedback	3.2939	0.7634	Always / Very High	5
Parent–Teacher/School Communication and Monitoring	3.4595	0.7251	Always / Very High	3
Overall Home Learning Support	3.4500	0.6051	Always / Very High	—

Note. Means were interpreted using the following scale: 3.25–4.00 = Very High, 2.50–3.24 = High, 1.75–2.49 = Moderate, and 1.00–1.74 = Low.

Problem 2. What is the parenting style of parents/guardians in terms of authoritative, authoritarian, and permissive parenting?

Table 2 shows the parenting style scores of the respondents across authoritative, authoritarian, and permissive dimensions. The overall parenting style mean was 2.5240 ($SD = 0.5900$), interpreted as Often / High. Among the dimensions, Authoritative Parenting obtained the highest mean (2.5766), while Permissive Parenting obtained the lowest mean (2.4257). This suggests that parents/guardians reported higher use of authoritative and authoritarian practices than permissive practices. The pattern is consistent with the parenting-style literature that operationalizes parenting into these dimensions and examines them as distinct, measurable approaches to guidance and control (Hayek et al., 2022; Xia et al., 2023).

Table 2. *Summary of Parenting Style Scores (n = 74)*

Dimension	Mean	SD	Interpretation	Rank
Authoritative Parenting	2.5766	0.6370	Often / High	1
Authoritarian Parenting	2.5698	0.6006	Often / High	2

Permissive Parenting	2.4257	0.6848	Sometimes / Moderate	3
Overall Parenting Style	2.5240	0.5900	Often / High	—

Note. Means were interpreted using the following scale: 3.25–4.00 = Very High, 2.50–3.24 = High, 1.75–2.49 = Moderate, and 1.00–1.74 = Low.

Problem 3. What is the academic achievement of Grade 1 learners based on official school records?

Table 3 presents the academic achievement of Grade 1 learners based on official school records for School Year 2025–2026. The mean academic achievement was 90.1351 (SD = 3.2993), with scores ranging from 82 to 97. Using records-based grades as an achievement indicator is consistent with quantitative practice in basic education research where official grades summarize learners' attainment across assessed tasks within a grading period (Department of Education, 2020).

Table 3. *Summary of Academic Achievement Based on School Records (n = 74)*

Measure	Mean	SD	Range
Academic Achievement (General Average/Quarterly Grade)	90.1351	3.2993	82–97

Note. Academic achievement values were taken from official school records (quarterly grade and/or general average) for the grading period covered by the study.

Problem 4. Is there a significant relationship between home learning support and the academic achievement of Grade 1 learners?

Table 4 further presents the distribution of learners' academic achievement classifications as reflected in the school records. Pearson product-moment correlation analysis was conducted to determine the relationship between home learning support and academic achievement. The results showed a very weak positive relationship ($r = 0.0707$, $p = 0.5496$), which was not statistically significant at the 0.05 level. This indicates that, within the current sample, variations in reported home learning support were not associated with meaningful differences in recorded academic achievement. Prior meta-analytic evidence indicates that relationships between parental involvement and achievement may be small and vary depending on the type of involvement measured and the context in which learning occurs (Erdem & Kaya, 2020; Kim, 2022).

Table 4. *Distribution of Academic Achievement Classifications (n = 74)*

Classification	Frequency	Percentage
Outstanding	47	63.5
Very Satisfactory	21	28.4
Satisfactory	6	8.1

Note. Classifications were based on the interpretation field recorded in the scoring workbook derived from the school's grade records.

Problem 5. Is there a significant relationship between parenting style and the academic achievement of Grade 1 learners?

Pearson correlation analysis was also conducted to determine the relationship between parenting style and academic achievement. The results indicated a very weak positive relationship ($r = 0.0968$, $p = 0.4118$), which was not statistically significant at the 0.05 level. This suggests that parenting style scores, as measured in this study, were not significantly associated with the learners' recorded achievement. Although many studies report more favorable outcomes under authoritative parenting, findings can differ by developmental stage, cultural context, and outcome measurement, which may explain weak or non-significant associations in some settings (Hayek et al., 2022; Xia et al., 2023).

Table 5. *Correlations Between Home Variables and Academic Achievement (n = 74)*

Variable Pair	r	p	Decision at .05
Home Learning Support and Academic Achievement	0.0707	0.5496	Fail to reject H0
Parenting Style and Academic Achievement	0.0968	0.4118	Fail to reject H0

Note. Pearson product-moment correlation coefficient was used. Correlations were tested at the 0.05 level of significance.

Integrated Discussion

Overall, parents/guardians reported very high levels of home learning support, particularly in the availability of learning resources and study conditions, while homework/task guidance and feedback obtained the lowest mean. Parenting style results indicated higher levels of authoritative and authoritarian practices and a moderate level of permissive practices. Learners' academic achievement based on school records was generally high, with most learners classified as Outstanding or Very Satisfactory. However, correlation analysis showed that neither home learning support nor parenting style had a statistically significant relationship with academic achievement in this dataset, and the observed relationships were very weak. This pattern is consistent with research syntheses noting that associations between parental involvement and achievement are sometimes small and context-dependent, especially when achievement is measured through grades and when home variables show limited variability within a given community (Erdem & Kaya, 2020; Kim, 2022).

Summary of Findings

The study examined the relationship between home learning support, parenting style, and academic achievement among Grade 1 learners using a quantitative descriptive-correlational research design. Specifically, it determined the level of home learning support in terms of structure of study routines at home, homework/learning-at-home assistance, availability of home learning resources and study conditions, and parent-teacher/school communication and monitoring; identified parenting style in terms of authoritative, authoritarian, and permissive parenting; and described Grade 1 learners' academic achievement based on official school records. It also tested whether significant relationships existed between (1) home learning support and academic achievement and (2) parenting style and academic achievement. The respondents were 74 parents/guardians with complete and valid responses. Statistical tools used included weighted mean, standard deviation, rank ordering, and Pearson product-moment correlation coefficient.

Findings

1. Level of Home Learning Support

- 1.1. The overall level of home learning support was Very High, with an average weighted mean of 3.4500 (SD = 0.6051).
- 1.2. Among the dimensions, Availability of Home Learning Resources and Study Conditions obtained the highest mean of 3.6284.
- 1.3. The dimension with the lowest mean was Homework/Task Guidance and Feedback with a mean of 3.2939.
- 1.4. These results suggest that parents/guardians generally reported strong support for learning at home, consistent with evidence that home learning support is multidimensional and can be reflected through routines, resources, assistance, and communication practices (Kim, 2022; Erdem & Kaya, 2020).

2. Parenting Style of Parents/Guardians

- 2.1. The overall parenting style mean was 2.5240 (SD = 0.5900), interpreted as High.
- 2.2. Among the dimensions, Authoritative Parenting obtained the highest mean of 2.5766.
- 2.3. The dimension with the lowest mean was Permissive Parenting with a mean of 2.4257.
- 2.4. This pattern indicates that parenting approaches can be measured across authoritative, authoritarian, and permissive dimensions, which are commonly treated as distinct constructs in quantitative research on learning outcomes (Hayek et al., 2022; Xia et al., 2023).

3. Academic Achievement of Grade 1 Learners

- 3.1. The mean academic achievement based on official school records was 90.1351 (SD = 3.2993), with grades ranging from 82 to 97.
- 3.2. The largest proportion of learners was classified as Outstanding ($f = 47$, 63.5%).
- 3.3. These findings indicate that learners generally performed well based on recorded grades, and that records-based achievement measures remain practical and widely used outcome indicators in basic education research (Department of Education, 2020).

4. Relationship Between Home Learning Support and Academic Achievement

- 4.1. The relationship between home learning support and academic achievement was very weak ($r = 0.0707$) and not statistically significant ($p = 0.5496$).
- 4.2. This implies that within the present sample, higher reported home learning support did not correspond to significantly higher recorded academic achievement. This outcome is aligned with evidence that the strength of the involvement–achievement association may be small and context-dependent (Erdem & Kaya, 2020; Kim, 2022).

5. Relationship Between Parenting Style and Academic Achievement

- 5.1. The relationship between parenting style and academic achievement was very weak ($r = 0.0968$) and not statistically significant ($p = 0.4118$).
- 5.2. This indicates that parenting style scores in this study were not significantly associated with Grade 1 learners' recorded achievement. Literature suggests that parenting style effects on academic outcomes can vary across developmental stages, contexts, and outcome measures, which may contribute to weak or non-significant relationships in some settings (Hayek et al., 2022; Xia et al., 2023).

CONCLUSIONS**1. Overall Patterns**

- 1.1. Parents/guardians generally manifested very high levels of home learning support, indicating that routine-setting, provision of learning conditions, and communication practices were commonly observed.
- 1.2. Parents/guardians reported higher levels of authoritative and authoritarian parenting practices than permissive practices, reflecting a generally structured approach to child guidance.
- 1.3. Grade 1 learners' academic achievement, based on official school records, was generally high for the period covered by the study.

2. Relationships Among Variables

- 2.1. Home learning support did not show a statistically significant relationship with Grade 1 learners' academic achievement, indicating that variations in reported support were not associated with meaningful differences in recorded grades in this dataset.
- 2.2. Parenting style likewise did not show a statistically significant relationship with academic achievement, suggesting that the measured parenting patterns were not associated with recorded grades for the learners included.

3. Null Hypotheses

- 3.1. The null hypothesis stating that there is no significant relationship between home learning support and the academic achievement of Grade 1 learners was not rejected.
- 3.2. The null hypothesis stating that there is no significant relationship between parenting style and the academic achievement of Grade 1 learners was not rejected.

4. General Inference

- 4.1. While home learning support and parenting style are important educational factors, academic achievement in early grades may also be influenced by other variables not included in this study, such as learner readiness, attendance, classroom practices, and assessment and grading implementation.

Recommendations

1. Strengthening Home Learning Support Practices

- 1.1. School heads and Grade 1 teachers may strengthen parent orientation sessions that focus on practical home learning routines, including establishing a consistent study schedule, preparing a conducive study space, and monitoring learning tasks.
- 1.2. Parents/guardians may be guided to improve the dimension that obtained the lowest mean by providing clearer task guidance and timely feedback during at-home learning activities, consistent with evidence that the quality of support matters in learning outcomes (Kim, 2022; Xu et al., 2024).
- 1.3. Home-school communication mechanisms (e.g., weekly progress notes, communication logs, or regular check-ins) may be strengthened to support coordinated learner assistance, aligned with family-school partnership perspectives (Epstein, 2011).

2. Parenting Support and Capacity-Building

- 2.1. Guidance personnel and teachers may conduct parent development activities on balanced discipline and supportive guidance, emphasizing warm but structured approaches that promote self-regulation and learning engagement in young children (Hayek et al., 2022).
- 2.2. Parents/guardians may be encouraged to apply consistent rules and routines while maintaining supportive communication with children, particularly during homework and practice sessions.

3. School-Based Academic Achievement Support

- 3.1. Teachers may continue strengthening foundational literacy and numeracy instruction and provide clear home practice tasks that are developmentally appropriate for Grade 1 learners to sustain achievement levels.
- 3.2. The school may consider monitoring additional learning indicators (e.g., reading fluency checks, early numeracy benchmarks) alongside grades to provide a more complete picture of achievement progress.

4. Future Research

5. Future researchers may include additional variables such as learner attendance, learning readiness, socioeconomic indicators, parental education, or classroom instructional practices to better explain variations in early-grade academic achievement.
6. Future studies may use larger samples or multi-school settings to improve generalizability and examine whether similar patterns occur across districts or divisions.
7. Mixed-methods or qualitative follow-up studies may be conducted to explore why high levels of reported home learning support do not necessarily translate into higher recorded grades in specific contexts.

REFERENCES

- Alanazi, M. M. (2024). Grade five students' common errors and misconceptions in multiplication and division for whole numbers. *Pakistan Journal of Life and Social Sciences*, 22(1), 3938–3963.
<https://doi.org/10.57239/PJLSS-2024-22.1.00290>
- Anthony, R. (2024). *Weighted mean formula and how to calculate it*. Investopedia.
<https://www.investopedia.com/terms/w/weightedmean.asp>
- Arenas-Peñaloza, J., Rodríguez-Vásquez, F. M., Maturana, S. L., & Rojas, N. (2024). Analysis of primary school students' process of understanding about the concept of ratio: A view from the Pirie-Kieren theory. *EURASIA Journal of Mathematics, Science and Technology Education*, 21(1), Article em2565.
<https://doi.org/10.29333/ejmste/15656>
- Ashlock, R. B. (2010). *Error patterns in computation: Using error patterns to help each student learn* (10th ed.). Pearson.
- Bacosa, D. P., Lactuan, I. R., & Mirasol, K. (2025). One word problem a day (OWPaD): Enhancing mathematical problem-solving and logical skills. *World Journal of Advanced Research and Reviews*, 28(3), 1435–1440.
<https://doi.org/10.30574/wjarr.2025.28.3.4210>
- Bevans, R. (2023). *Simple linear regression: An easy introduction and examples*. Scribbr.
<https://www.scribbr.com/statistics/simple-linear-regression/>
- Bhandari, P. (2023a). *Correlational research: When and how to use it*. Scribbr.
<https://www.scribbr.com/methodology/correlational-research/>
- Bhandari, P. (2023b). *Data collection: Definition, methods, and examples*. Scribbr.
<https://www.scribbr.com/methodology/data-collection/>
- Bhandari, P. (2023c). *What is quantitative research? Definition, uses, and methods*. Scribbr.
<https://www.scribbr.com/methodology/quantitative-research/>
- Bognar, B., Mužar Horvat, S., & Jukić Matić, L. (2025). Characteristics of effective elementary mathematics instruction: A scoping review of experimental studies. *Education Sciences*, 15(1), Article 76.
<https://doi.org/10.3390/educsci15010076>
- Cahyaningsih, U., Jatisunda, M. G., Kurniawan, D. T., Nahdi, D. S., Utami, W. P., & Halipah, R. (2025). Improving understanding of fraction concepts through problem-based learning in elementary schools. *Journal of Innovation and Research in Primary Education*, 4(3), 1356–1366.
<https://ejournal.papanda.org/index.php/jirpe/article/view/1497>
- Campanilla, N. S., & Mendoza, C. R. (2024). Error pattern analysis of the mathematics problem solving of Grade 10 learners. *Journal of Social, Humanity, and Education*, 4(4), 245–262.
<https://doi.org/10.35912/jshe.v4i4.2125>
- Carranza, D. A., & De Guzman, A. P. B. (2025). Conceptual understanding intervention for learners struggling in mathematics. *International Journal of Advanced Multidisciplinary Studies*, 5(5), 383–395.
<https://www.ijams-bbp.net/wp-content/uploads/2025/09/5-IJAMS-MAY-2025-383-395.pdf>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- De la Victoria, C. I. (2024). Effectiveness of collaborative learning strategies in improving the performance of Grade 6 learners in mathematics. *International Journal of Advanced Multidisciplinary Studies*, 4(11), 221–234. <https://www.ijams-bbp.net/wp-content/uploads/2024/11/21.-CELSITA-I.-DE-LA-VICTORIA.pdf>
- Department of Education. (2016). *K to 12 basic education curriculum guide: Mathematics*. DepEd.
https://depedbohol.org/v2/wp-content/uploads/2016/03/Math-CG_with-tagged-math-equipment.pdf
- Department of Education. (2023). *MATATAG mathematics curriculum guide (Grades 1–4 and 7)*. DepEd.
<https://www.deped.gov.ph/wp-content/uploads/MATATAG-Mathematics-CG-Grades1-4-and-7.pdf>
- Department of Education. (2024). *DepEd Order No. 010, s. 2024: Policy guidelines on the implementation of the MATATAG Curriculum*. DepEd. https://www.deped.gov.ph/wp-content/uploads/DO_s2024_010.pdf
- Department of Education, Southeast Asian Ministers of Education Organization, & United Nations Children's Fund. (2021). *Southeast Asia Primary Learning Metrics 2019 national report of the Philippines*. UNICEF.
<https://www.unicef.org/philippines/media/2556/file/Southeast%20Asia%20Primary%20Learning%20Metrics%202019%20National%20Report%20of%20the%20Philippines.pdf>

- Department of Education–Caraga Region. (2025). *Caraga 2024 milestones* (Version 2). DepEd. https://caraga.deped.gov.ph/wp-content/uploads/2025/07/Caraga-2024-Milestones-as-of-July-26-2025_compressed-1.pdf
- Department of Education–Division of Surigao del Sur. (2024a, August 27). *Division Memorandum No. 356, s. 2024: Administration of the Rapid Mathematics Assessment (RMA) for Grades 1 to 3 for the beginning of the school year 2024–2025*. DepEd. https://depedsurigaodelsur.com/sites/default/files/DM%20356_2.pdf
- Department of Education–Division of Surigao del Sur. (2024b, September 27). *Division Memorandum No. 443, s. 2024: Analysis of Rapid Mathematics Assessment (RMA) results and preparation of intervention plan*. DepEd. <https://www.depedsurigaodelsur.com/content/dm-no-443-s-2024-analysis-rapid-mathematics-assessment-rma-results-and-preparation>
- Ergene, Ö., & Karabogaz, Y. (2024). The effect of the flipped classroom model on students' proportional reasoning. *Journal of Pedagogical Research*, 8(1), 294–311. <https://doi.org/10.33902/JPR.202425424>
- Fernandez, A. D., & Benavides, N. G. (2023). Numeracy skills performance of Grade 6 pupils in modular distance learning. *United International Journal for Research & Technology*, 4(4), 51–62. <https://uijrt.com/articles/v4/i4/UIJRTV4I40008.pdf>
- Francisco, P. K. D., Anating, N. B., Apurillo, S. E., De La Pena, P. B., Espinosa, A. R. C., & Tumlos, P. H. T. (2025). Numeracy skills and academic performance of elementary learners. *International Journal of Research and Innovation in Social Science*, 9(3), 295–308. <https://doi.org/10.47772/IJRISS.2025.90300295>
- Fuchs, L. S., Newman-Gonchar, R., Schumacher, R., Dougherty, B., Bucka, N., Karp, K. S., Woodward, J., Clarke, B., Jordan, N. C., Gersten, R., Jayanthi, M., Keating, B., & Morgan, S. (2021). *Assisting students struggling with mathematics: Intervention in the elementary grades* (WWC Practice Guide 2021006). National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. <https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/WWC2021006-Math-PG.pdf>
- Giri, C. K. (2025). Errors committed by Class-V students in addition and subtraction. *International Journal of Science and Research Archive*, 14(2), 118–125. <https://ijsi.in/wp-content/uploads/2025/02/18.02.017.20220703.pdf>
- Herheim, R. (2023). On the origin, characteristics, and usefulness of instrumental and relational understanding. *Educational Studies in Mathematics*, 113(3), 389–404. <https://doi.org/10.1007/s10649-023-10225-0>
- Hurrell, D. P. (2021). Conceptual knowledge OR procedural knowledge OR conceptual knowledge AND procedural knowledge: Why the conjunction is important for teachers. *Australian Journal of Teacher Education*, 46(2), 57–71. <https://doi.org/10.14221/ajte.2021v46n2.4>
- Igarashi, T., & Suryadarma, D. (2023). Foundational mathematics and reading skills of Filipino students over a generation. *International Journal of Educational Development*, 96, Article 102688. <https://doi.org/10.1016/j.ijedudev.2022.102688>
- IRIS Center. (n.d.). *Error analysis for mathematics*. Peabody College, Vanderbilt University. <https://iris.peabody.vanderbilt.edu/>
- Jensen, S., Witzke, I., & Prediger, S. (2024). Place value and regrouping as helpful constructs to diagnose difficulties in understanding the place value system. *Journal für Mathematik-Didaktik*, 45, Article 11. <https://doi.org/10.1007/s13138-024-00234-8>
- Joutsenlahti, J., & Perkkilä, P. (2024). Mastery of the concept of percentage and its representations in Finnish comprehensive school grades 7–9. *Education Sciences*, 14(10), Article 1043. <https://doi.org/10.3390/educsci14101043>
- Kinasoon, N., Khongput, S., & Thiengkamol, N. (2025). Developing mathematics problem-solving skills among Thai Grade 5 students using the KWDL learning management technique. *International Journal of Advanced and Applied Sciences*, 12(9), 186–191. <https://doi.org/10.21833/ijaas.2025.09.018>
- Lariviere, D. O., Powell, S. R., Fall, A.-M., Roberts, G., & Arseneault, T. L. (2025). Language predictors of word-problem performance among third-grade students with mathematics difficulty. *Journal of Learning Disabilities*, 58(2), 123–140. <https://doi.org/10.1177/00222194241311979>
- Lin, T.-H., & Riccomini, P. J. (2026). Understanding error patterns in integer operations of students with and without mathematics difficulty: A descriptive analysis. *Learning Disabilities Research & Practice*, 41(1), 45–58. <https://doi.org/10.1177/09388982251366454>

- Lin, T.-H., Riccomini, P. J., & Liang, Z. (2025). Mathematical error patterns of students with mathematics difficulty: A systematic review. *Learning Disability Quarterly*, 48(4), 242–256. <https://doi.org/10.1177/07319487241310873>
- Mao, J., Ma, C., Huang, Y., Shen, L., Herrera, C. B., & Powell, S. R. (2025). Computation and word-problem errors among Grade 4 and 5 students with mathematics difficulty. *Assessment for Effective Intervention*. Advance online publication. <https://doi.org/10.1177/15345084251398525>
- Nalusay, C., Demoral, D., & Suguis, J. (2024). Enhancing Grade 6 students' multiplication automaticity through interactive taped problems. *International Journal of Research and Innovation in Social Science*, 8(3S), 4886–4895. <https://doi.org/10.47772/IJRIS.2024.803360S>
- Nelson, G., Hunt, J. H., Martin, K., Patterson, B., & Khounmeuang, A. (2020). Current knowledge and future directions: Proportional reasoning interventions for students with learning disabilities and mathematics difficulties. *Learning Disability Quarterly*, 45(3), 176–190. <https://doi.org/10.1177/0731948720932850>
- Nelson, G., & Powell, S. R. (2018). Computation error analysis: Students with mathematics difficulty compared to typically achieving students. *Assessment for Effective Intervention*, 43(3), 144–156. <https://doi.org/10.1177/1534508417745627>
- Nob, K. R., & Pañares, N. C. (2025). Students' computational skills and word-problem solving performance in mathematics. *International Journal of Multidisciplinary Research and Analysis*, 8(9), 5313–5321. <https://doi.org/10.47191/ijmra/v8-i09-45>
- Önal, H., & Altiner, E. Ç. (2021). The level of 7- and 8-years old children understanding of the place value concept. *European Journal of Educational Sciences*, 8(4), 28–52. <https://doi.org/10.19044/ejes.v8no4a28>
- Organisation for Economic Co-operation and Development. (2023a). *Education GPS: Philippines—Student performance (PISA 2022)*. OECD. <https://gpseducation.oecd.org/CountryProfile?primaryCountry=PHL&topic=PI&treshold=5>
- Organisation for Economic Co-operation and Development. (2023b). *PISA 2022 assessment and analytical framework*. OECD Publishing. <https://doi.org/10.1787/3b0369f1-en>
- Organisation for Economic Co-operation and Development. (2023c). *PISA 2022 mathematics framework*. OECD. <https://pisa2022-maths.oecd.org/files/PISA%202022%20Mathematics%20Framework%20Draft.pdf>
- Organisation for Economic Co-operation and Development. (2023d). *PISA 2022 results (Volume I): The state of learning and equity in education*. OECD Publishing. <https://doi.org/10.1787/53f23881-en>
- Organisation for Economic Co-operation and Development. (2023e). *PISA 2022 results (Volume I and II) country notes: Philippines*. OECD Publishing. https://www.oecd.org/en/publications/pisa-2022-results-volume-i-and-ii-country-notes_ed6fbcc5-en/philippines_a0882a2d-en.html
- Pereda Lorient, Á., González-Calero, J. A., Tirado-Olivares, S., & del Olmo-Muñoz, J. (2025). Enhancing mathematics performance in primary education: The impact of personalized learning on fractions and decimal numbers. *Education and Information Technologies*, 30(12), 15961–15991. <https://doi.org/10.1007/s10639-025-13428-5>
- Pólya, G. (1945). *How to solve it: A new aspect of mathematical method*. Princeton University Press.
- Pongsakdi, N., Kajamies, A., Veermans, K., Lertola, K., Vauras, M., & Lehtinen, E. (2020). What makes mathematical word problem solving challenging? Exploring the roles of word problem characteristics, text comprehension, and arithmetic skills. *ZDM – Mathematics Education*, 52(1), 33–44. <https://doi.org/10.1007/s11858-019-01118-9>
- Prediger, S., Rösike, K.-A., & Wischgoll, A. (2025). Beyond basic skills: An effective foundation intervention for low-achieving fifth graders' understanding of basic concepts. *Studies in Educational Evaluation*, 85, Article 101452. <https://doi.org/10.1016/j.stueduc.2025.101452>
- Republic of the Philippines. (2012). *Republic Act No. 10173: Data Privacy Act of 2012*. Official Gazette. https://lawphil.net/statutes/repacts/ra_10173_2012.html
- Salili, J. S., Geronimo, D. A., & co-authors. (2025). Enhancing problem-solving skills in simple interest among Grade 7 students through the INTER (Identify, Note, Track, Evaluate, Review) strategy. *EPRA International Journal of Multidisciplinary Research*, 11(6), 214–222. <https://doi.org/10.36713/epra22614>
- Santos-Trigo, M. (2024). Problem solving in mathematics education: Tracing its foundations and current research-practice trends. *ZDM – Mathematics Education*, 56(3), 411–425. <https://doi.org/10.1007/s11858-024-01578-8>

- Sari, M. H., Herzog, M., Olkun, S., & Fritz, A. (2021). Validation of a model of sustainable place value understanding in Turkey. *International Electronic Journal of Mathematics Education*, 16(3), Article em0659. <https://doi.org/10.29333/iejme/11295>
- Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, 34(1), 8–12. <https://doi.org/10.1097/NUR.0000000000000493>
- Sirajuddin, S., Akib, I., & Nasrun, N. (2025). Visualizing fractions: Enhancing problem-solving performance through diagrammatic reasoning in elementary mathematics. *Jurnal Penelitian dan Pengkajian Ilmu Pendidikan: E-Saintika*, 9(2), 512–524. <https://doi.org/10.36312/e-saintika.v9i2.3139>
- Skemp, R. R. (1978). Relational understanding and instrumental understanding. *The Arithmetic Teacher*, 26(3), 9–15. <https://doi.org/10.5951/AT.26.3.0009>
- Stevens, E. A., Leroux, A. J., & Powell, S. R. (2024). Predicting the word-problem performance of students with mathematics difficulty using word-problem vocabulary knowledge. *Learning Disabilities Research & Practice*, 39(4), 202–211. <https://doi.org/10.1177/09388982241261955>
- Sugawara, M. (2026). Investigating learners' misconceptions on division of whole numbers to identify a goal of research lesson: A case of lesson study. *International Electronic Journal of Mathematics Education*, 21(1), Article em0781. <https://doi.org/10.29333/iejme/17700>
- Sury, D., & Pilchin, L. (2025). The language of numbers: Reading comprehension and applied math problem-solving. *Behavioral Sciences*, 15(12), Article 1746. <https://doi.org/10.3390/bs15121746>
- Suseelan, M., Chew, C. M., & Chin, H. (2022). Research on mathematics problem solving in elementary education conducted from 1969 to 2021: A bibliometric review. *International Journal of Education in Mathematics, Science and Technology*, 10(4), 1003–1029. <https://doi.org/10.46328/ijemst.2529>
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
- Sweller, J. (2024). Cognitive load theory and individual differences. *Educational Psychology Review*, 36(2), Article 43. <https://doi.org/10.1007/s10648-024-09880-9>
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Tolar, T. D., Fuchs, L., Cirino, P. T., Fuchs, D., Hamlett, C. L., & Fletcher, J. M. (2012). Predicting development of mathematical word problem solving across the intermediate grades. *Journal of Educational Psychology*, 104(4), 1083–1093. <https://doi.org/10.1037/a0029020>
- United Nations Children's Fund, & Southeast Asian Ministers of Education Organization. (2020). *SEA-PLM 2019 main regional report: Children's learning in 6 Southeast Asian countries*. UNICEF. [suspicious link removed]
- Vendicacion, E. G., Huevos, C. G., & Espiritu, M., Jr. (2025). Arithmetic counting techniques through manipulatives: Effect on the numeracy skills of Grade 1 pupils. *International Journal of Multidisciplinary: Applied Business and Education Research*, 6(4), 1412–1425. <https://doi.org/10.11594/ijmaber.06.04.18>
- Vessonen, T., Hellstrand, H., Kurkela, M., Aunio, P., & Laine, A. (2025). The effectiveness of mathematical word problem-solving interventions among elementary schoolers: A systematic review and meta-analysis. *Research in Developmental Disabilities*, 158, Article 105116. <https://doi.org/10.1016/j.ridd.2025.105116>
- Wiedenhofer, D.-M. (2025). Promoting financial numeracy through mathematics education. In S. M. Patahuddin, L. Gaunt, D. Harris, & K. Tripet (Eds.), *Unlocking minds in mathematics education: Proceedings of the 47th annual conference of the Mathematics Education Research Group of Australasia* (pp. 477–484). MERGA. <https://files.eric.ed.gov/fulltext/ED676448.pdf>
- Zaid, M. A. A. (2015). *Correlation and regression analysis: Textbook for practitioners and researchers*. Statistical, Economic and Social Research and Training Centre for Islamic Countries. https://sesricdiag.blob.core.windows.net/oicstatcom/Textbook_Correlation_and_Regression_Analysis.pdf