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Beyond grades: Academic performance and functional literacy across learner proficiency levels in a rural Philippine secondary school

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Abstract

Aim: This study examined the relationship between academic performance and functional literacy among Grade 10 and Senior High School learners in a rural school. It determined differences across learner proficiency groups and assessed whether academic achievement predicts functional literacy.

Methodology: A quantitative correlational-predictive design was employed with ninety Grades 10-12 learners selected through stratified purposive sampling and classified as low-, average-, and high-performing groups. Functional literacy was measured using a validated 40-item assessment covering four authentic reading tasks: news article, bus schedule, recipe, and electric bill. Descriptive statistics, Pearson's correlation, and regression were employed.

Results: Functional literacy increased across proficiency groups, with high-performing learners obtaining the highest composite mean (7.58), followed by average-performing (5.16) and low-performing (3.4). Academic grades were significantly and positively correlated with all four literacy tasks, with a strong overall association ($r = .836$, $p < .001$). Regression analysis showed that academic grades significantly predicted functional literacy, explaining 69.9% of the variance ($R^2 = .699$, $p < .001$).

Conclusion: Lower functional literacy performance is not confined to low-performing learners, as average-performing students likewise demonstrated notable difficulties in applying literacy skills to authentic tasks, whereas high-performing learners consistently achieved stronger functional literacy outcomes. The findings establish an association between academic achievement and functional literacy. The performance gradient highlights the importance of integrating authentic literacy activities across the curriculum, strengthening functional reading instruction, and adopting assessment practices that extend beyond academic grades to identify hidden literacy gaps and support evidence-based educational interventions in rural schools.

Keywords: *functional literacy, correlational-predictive analysis, real-life reading tasks, academic performance, learner proficiency levels*

INTRODUCTION

Functional literacy has emerged as a critical global educational concern, reflecting a persistent gap between basic literacy acquisition and the ability to apply reading skills in real-life contexts. International large-scale assessments, including the Programme for International Student Assessment (PISA), consistently reveal that a significant proportion of learners worldwide struggle with higher-order comprehension tasks despite completing formal schooling (Organisation for Economic Co-operation and Development [OECD], 2023). The UNESCO Institute for Statistics (2022) emphasized that literacy should no longer be defined merely as the ability to decode text but as the capacity to interpret, evaluate, and use information effectively across diverse contexts. This broader conception highlights the concern that some learners may complete formal schooling while still demonstrating limited functional literacy performance, potentially constraining their participation in knowledge-based economies and civic life.

Across educational systems, functional literacy remains a persistent concern as learners are increasingly expected to interpret, evaluate, and apply information beyond basic reading situations. Recent scholarship emphasizes

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that the ability to apply reading skills in everyday contexts is essential for meaningful participation in modern life (Chyl, 2024). Empirical research among Portuguese adolescents demonstrates that functional literacy can be assessed as a distinct competency involving verbal comprehension and numeracy and is associated with school performance (Martins et al., 2024). Similarly, research in Indonesia developed and validated a functional literacy assessment encompassing authentic domains such as document, numerical, transportation, financial, and digital literacy (Sari et al., 2025). These findings demonstrate that functional literacy performance encompasses multiple competencies that learners need to use literacy skills effectively in authentic situations and that differences in performance may exist across educational contexts.

In the Philippine context, this challenge is particularly significant. Recent data from the Philippine Statistics Authority indicate that approximately 24.8 million Filipinos aged 10 to 64 were identified as having functional literacy limitations under the revised assessment framework, nearly doubling from 14.5 million three decades ago (Cariaso, 2025). More concerning is the evidence that limitations in functional literacy performance persist even among individuals who have completed basic education. Findings from the Second Congressional Commission on Education (EDCOM 2) indicate that approximately 18 to 19 million high school graduates may demonstrate insufficient comprehension skills under the revised 2024 definition of functional literacy (EDCOM 2, 2025; Ramos, 2025). Furthermore, the latest Functional Literacy, Education and Mass Media Survey (FLEMMS) reports that approximately 21% of senior high school graduates are unable to comprehend a simple narrative text (Chi, 2025; Senate of the Philippines, 2025). These findings challenge the assumption that school completion necessarily corresponds with adequate functional literacy performance and point to continuing concerns regarding the translation of classroom instruction into literacy competencies that can be applied in practical contexts.

The development of functional literacy is further challenged by institutional constraints within the education system. The Department of Education's expanding mandates, ranging from health programs to disaster management, have increased administrative workloads, reduced instructional focus, and limited opportunities for targeted literacy interventions (Cariaso, 2025). Such conditions disproportionately affect rural and resource constrained schools, where limited access to instructional materials and support services compounds learning difficulties (David et al., 2018). Furthermore, data from the Philippine Statistics Authority show that regions with higher-than-average poverty incidence also exhibit lower functional literacy rates. For example, the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) and Zamboanga Peninsula both recorded high poverty incidence and functional literacy rates below the national average of 70.8%. This pattern indicates a relationship between socioeconomic conditions and literacy outcomes in the Philippines. These systemic and contextual factors collectively contribute to persistent differences in functional literacy performance across learners and regions.

Beyond national concerns, differences in functional literacy performance have implications for broader social and economic outcomes. Individuals with lower functional literacy performance may be more vulnerable to misinformation, less likely to access employment opportunities, and more prone to experiencing intergenerational cycles of disadvantage (Hanushek & Woessmann, 2020; Pinugu, 2025). At the societal level, widespread limitations in functional literacy performance may undermine productivity, weaken democratic participation, and constrain national development (Zaldarriaga, 2025). As economies increasingly demand higher order cognitive skills, gaps between formal educational attainment and the ability to apply literacy skills in authentic contexts may represent a significant barrier to global competitiveness (The World Bank, 2023).

Existing literature has documented persistent challenges in reading comprehension and literacy development among learners, including in international assessments where the Philippines consistently performs below many countries (OECD, 2023). Research on learning loss following the COVID 19 pandemic likewise highlights declines in reading comprehension and application (Angrist et al., 2022; Azevedo et al., 2022). Recent international scholarship increasingly emphasizes functional literacy through authentic assessment, demonstrating that literacy involves applying comprehension and numeracy skills in everyday contexts (Chyl, 2024; Martins et al., 2024; Sari et al., 2025). Research on authentic learning environments and reading comprehension strategies further highlights the importance of contextualized instruction and deliberate literacy development (Abate et al., 2025; Lagdaan & Sevilla, 2025; Smith et al., 2026). These developments indicate a shift from measuring general reading proficiency toward examining how learners use literacy skills in meaningful and authentic contexts.

Despite these advances, a critical gap remains in understanding how functional literacy performance varies among learners with different levels of academic achievement within the same educational setting. Existing research often examines general reading proficiency, intervention effectiveness, or literacy strategies without specifically determining whether functional literacy difficulties are concentrated among learners with lower academic achievement or are also evident among average and high achieving students. This gap is particularly important because academic

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grades may not fully capture students' ability to apply literacy skills in real world situations (Smith et al., 2026). Examining functional literacy performance across different proficiency levels may therefore reveal less visible literacy difficulties among academically competent learners and provide evidence for more targeted educational interventions. Such an approach recognizes functional literacy as a measurable continuum of performance rather than a categorical condition and allows differences in learners' ability to apply literacy skills across authentic situations to be examined more appropriately.

Figure 1
Conceptual Framework of the Study

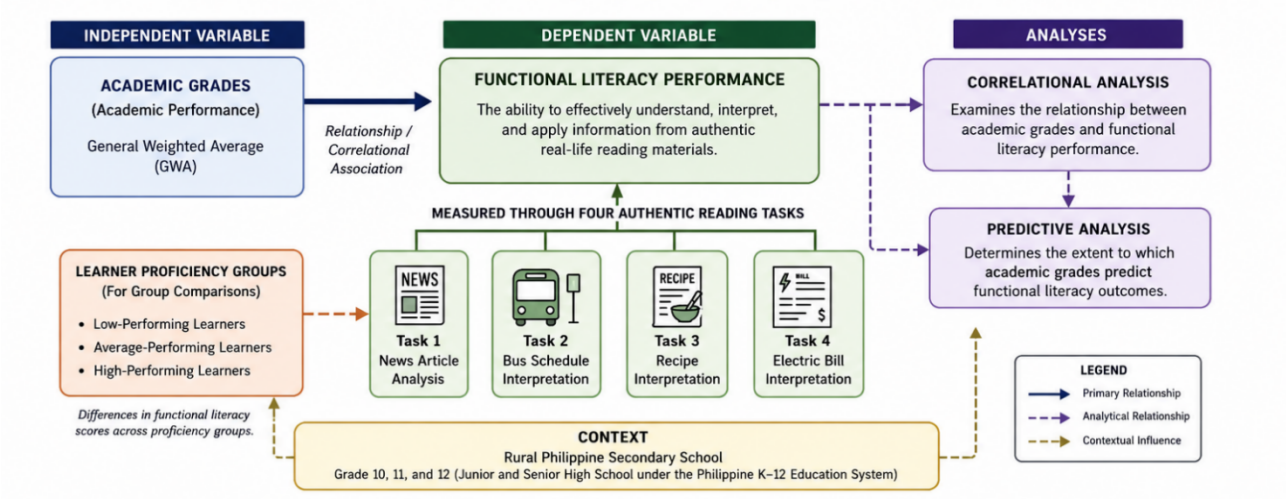


Figure 1 illustrates the conceptual framework of the study, showing the relationship between academic grades, functional literacy performance, learner proficiency groups and planned analyses. The framework positions academic grades as a measure of academic performance and functional literacy scores as indicators of learners' ability to interpret and apply information from authentic reading materials. It also incorporates proficiency-based comparisons and correlational and regression analyses to examine patterns of performance and the relationships between academic achievement and functional literacy.

This study is grounded in the conceptual framework that functional literacy is a multidimensional construct encompassing not only decoding and comprehension but also application, interpretation, and critical evaluation of real-life texts (UNESCO Institute for Statistics [UIS], 2022). Drawing from theories of situated cognition and authentic learning (Vargas et al., 2025; Abate et al., 2025), the study posits that literacy skills are best understood within the contexts in which they are used. Consequently, the use of real-life reading materials such as news articles, bus schedules, recipes, and utility bills provide a more accurate measure of students' functional literacy than traditional assessments.

The rationale of this research lies in addressing the disconnect between academic performance and applied literacy skills within rural Philippine schools. By examining both the correlational and predictive relationships between academic grades and functional literacy performance, the study seeks to provide empirical evidence on whether academic success translates into real-world literacy competence. This approach not only contributes to the literature on literacy assessment but also informs policy and instructional practices aimed at strengthening functional literacy across diverse learner groups.

Specifically, this study investigates how functional literacy difficulties manifest across low-, average-, and high-performing learners, examines the strength of the relationship between academic grades and functional literacy scores, and determines the extent to which academic performance predicts students' ability to engage with authentic reading tasks. In doing so, the study addresses a critical gap in the literature and provides a nuanced understanding of literacy challenges within rural educational contexts.

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Statement of the Problem

Functional literacy difficulties, defined as the inability to effectively understand, interpret, and apply information from authentic real-life reading materials, remains a significant yet insufficiently examined educational challenge in rural Philippine schools. Despite improvements in basic literacy indicators and expanded access to secondary education, many learners continue to experience difficulties in applying reading skills to practical situations encountered in everyday life. These challenges persist across varying levels of academic achievement, suggesting that satisfactory school grades may not necessarily reflect functional literacy competence.

Local studies have reported persistent weaknesses in higher-order reading comprehension, including making inferences, synthesizing information, and evaluating the credibility of texts among secondary learners (Lagdaan & Sevilla, 2025). These findings indicate that literacy extends beyond decoding and academic achievement to include the ability to comprehend, interpret, and utilize information for meaningful decision-making in authentic contexts. However, limited research has examined whether low functional literacy performance exists across different learner proficiency groups and whether academic performance significantly predicts functional literacy outcomes.

Given these educational concerns, this study seeks to determine the relationship between academic grades and functional literacy among Grade 10 and Senior High School learners in a rural Philippine school. Specifically, the study examines differences in functional literacy across learner proficiency groups, investigates the correlation between academic grades and functional literacy performance, and determines the extent to which academic achievement predicts learners' functional literacy. The findings are expected to provide evidence that may support literacy instruction, educational assessment, curriculum enhancement, and intervention planning.

Research Objectives

To determine the correlational and predictive relationship between academic grades and functional literacy among Grade 10 and Senior High School learners in a rural Philippine school. Specifically, this study aims:

1. To determine the differences in functional literacy scores across learner proficiency groups.
2. To examine the relationship between academic grades and functional literacy performance in each authentic reading task.
3. To determine the overall correlation between academic grades and functional literacy scores.
4. To determine the extent to which academic grades predict functional literacy outcomes.

Research Questions

This study seeks to answer the following questions:

1. How do functional literacy scores differ across learner proficiency groups?
2. What is the relationship between academic grades and functional literacy performance in each authentic reading task?
3. What is the overall correlation between academic grades and functional literacy scores?
4. To what extent do academic grades predict functional literacy outcomes?

Hypotheses

1. H_o: There is no significant relationship between academic grades and functional literacy performance in each authentic reading task.
2. H_o: There is no significant overall relationship between academic grades and functional literacy scores.
3. H_o: Academic grades do not significantly predict functional literacy outcomes among Grade 10 and Senior High School learners.

METHODOLOGY

Research Design

This study employed a quantitative correlational–predictive research design to examine the relationship between academic performance and functional literacy outcomes. This design was most appropriate because the study sought to determine the strength and direction of relationships between naturally occurring variables without manipulating academic performance, assigning learners to treatment conditions, or evaluating the effects of an instructional intervention (Bloomfield & Fisher, 2019). Such designs enable the identification of patterns and associations that can inform predictive modeling and educational decision-making. In the context of literacy research, correlational approaches have been widely used to examine how cognitive and academic variables relate to literacy

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performance (Muthmainnah, 2019). An experimental or quasi-experimental design was therefore not appropriate because the study did not seek to establish the effects of an intervention or manipulate the variables under investigation.

The study extends this approach by integrating predictive analysis through linear regression**,** which allows for the estimation of how well academic grades predict functional literacy scores. Regression analysis is particularly valuable in educational research because it quantifies the extent to which independent variables explain variance in outcome measures, thereby providing stronger inferential insight than correlation alone (Azevedo et al., 2022). Prior studies in literacy assessment emphasize the importance of combining correlational and predictive models to better understand learning outcomes and support data-driven interventions (OECD, 2023).

Additionally, descriptive statistics were incorporated to establish baseline patterns in functional literacy performance across learner groups. This three-tiered analytical structure, descriptive, correlational, and predictive ensures a comprehensive examination of the phenomenon and aligns with best practices in quantitative educational research, where initial profiling precedes inferential and predictive analysis (Olt et al., 2025; Loeb et al., 2017).

Population and Sampling

The accessible population consisted of 243 learners from Grades 10, 11, and 12 enrolled at Sta. Lucia National High School (SLNHS), located in the Municipality of Dolores, School Division of Quezon Province. The population comprised 105 Grade 10, 66 Grade 11, and 72 Grade 12 learners, representing Junior High School (Grade 10) and Senior High School (Grades 11 and 12) under the Philippine K–12 education system. One rural public secondary school, SLNHS, participated in the study. From this accessible population, ninety learners were selected through stratified purposive sampling and categorized into three proficiency groups based on academic grades: low-performing (75–80), average-performing (81–89), and high-performing (90 and above). Each group consisted of thirty students (ten per grade level), ensuring balanced representation across proficiency levels and grade strata. Gender was not considered as a sampling criterion because the study focused on academic proficiency and functional literacy performance.

A stratified purposive sampling technique was utilized to ensure that each proficiency category was adequately represented. Learners were included if they were enrolled in Grades 10, 11, or 12 and met the academic-grade criteria for one of the three proficiency categories. Learners who did not meet these grade-level or proficiency criteria were excluded from the sample. Stratified sampling is particularly appropriate in educational research when the goal is to compare subgroups within a population, as it enhances the precision of group-level analysis and reduces sampling bias (Creswell & Creswell, 2023). By structuring the sample across both grade levels and proficiency categories, the study ensures comparability and strengthens internal validity. The sample size (N = 90) is considered adequate for correlational and regression analyses, as statistical power is maintained when examining moderate to strong relationships (Field, 2023). Moreover, similar literacy studies have successfully employed comparable or smaller sample sizes in analyzing relationships between academic and literacy variables (Buckley, 2024).

Research Instruments

The primary instrument was a researcher-developed functional literacy assessment consisting of four real-life reading tasks based on existing functional literacy frameworks and using common, authentic reading materials. The four tasks covered (1) news article analysis, (2) bus schedule interpretation, (3) recipe comprehension, and (4) electric bill analysis. Each task contained 10 validated items, comprising of six multiple-choice questions with four options and four constructed-response items, for a total of 40 items. Each correct response received one point and each incorrect response zero points; thus, each task had a maximum score of 10 points. The four task scores were analyzed separately for descriptive and task-specific correlation analyses. For the overall correlation and regression analyses, the four task scores were averaged to obtain the composite functional literacy score, with a maximum of 10 and a minimum of 0. The items were designed to assess learners' comprehension and application of information presented in authentic, everyday reading contexts. The use of authentic reading materials is consistent with contemporary conceptualizations of functional literacy, which emphasize the ability to interpret and apply written information in real-life contexts rather than merely decode text (UIS, 2022). Similar approaches have been used in literacy assessment research, in which learners engage with authentic materials such as schedules, instructions, and informational texts to demonstrate applied literacy competencies (Chyl et al., 2024). Thus, the instrument was designed to measure differences in functional literacy performance based on learners' ability to comprehend and use information across varied everyday situations.

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Content Validation

Instrument validation followed a content and construct validation process. Content validity was established through three expert validators, an instructional leader and Master Teacher 1, one Master of Education in Teaching English who currently serves as the school district's literacy focal person and served as a subject matter expert, and the School Principal of the school where the research was conducted. Their expertise ensured alignment between the assessment items and the constructs of functional literacy. Construct validity was supported through pilot testing and item analysis, consistent with established practices in instrument development (Setiawan et al., 2024). By grounding the instrument in real-life contexts and applying rigorous validation procedures, the study ensured accurate measurement of functional literacy skills. A 5-point Likert-type scale was used for validation, where 5 indicated very highly valid and 1 indicated poorly valid. The instrument obtained a mean validity rating of 4.51, interpreted as very highly valid, indicating excellent content adequacy and relevance.

Reliability Testing

Reliability testing was conducted through a pilot administration of four functional literacy assessment tasks involving 36 learners from the target secondary grade levels. The pilot participants were distributed across the three grade levels, with 12 learners per grade level, consisting of four learners from each proficiency groups. The distribution of learners across proficiency groups was based on the actual pilot-testing records and was verified to ensure that the total number of participants was mathematically consistent. The pilot administration was conducted to examine the internal consistency and scoring reliability of the functional literacy assessment before its use in the main study.

The four functional literacy assessment tasks consisted of authentic real-life reading materials designed to measure learners' ability to comprehend and apply information in practical contexts. The assessment included 40 dichotomously scored items, comprising 10 items for each task, with responses scored as either correct or incorrect. Because these items were dichotomously scored, internal consistency was evaluated using the Kuder–Richardson Formula 20 (KR-20), which is appropriate for measuring the internal consistency of assessments consisting of binary-scored items (Madadizadeh & Bahariniya, 2025). The KR-20 coefficient obtained for the 40-item functional literacy assessment was .91, indicating excellent internal consistency and suggesting that the items demonstrated a high degree of consistency in measuring the intended functional literacy construct.

In addition to the dichotomously scored items, each functional literacy task included constructed-response components that required learners to provide written responses based on the authentic reading materials. A researcher-developed scoring rubric was used to evaluate these responses. Two evaluators independently scored the constructed responses using the same rubric to minimize subjectivity and establish consistency in scoring. Inter-rater reliability was assessed using the Intraclass Correlation Coefficient (ICC). The resulting ICC of .84 indicated good agreement between the two evaluators, supporting the consistency of the scoring procedure for the constructed-response component.
Overall, the KR-20 coefficient of .91 provided evidence of excellent internal consistency for the dichotomously scored functional literacy assessment items, while the ICC of .84 provided evidence of satisfactory inter-rater scoring reliability for the constructed-response component. These findings supported the reliability of the assessment procedures for measuring functional literacy among secondary learners in the main study.

Data Collection Procedures

Data collection was carried out in a controlled school setting using standardized administration procedures. Participants completed the four functional literacy assessments in separate scheduled sessions: news-article analysis on March 4, 2026; bus-schedule interpretation on March 10, 2026; recipe comprehension on March 13, 2026; and electric-bill analysis on March 17, 2026. All sessions followed uniform protocols across grade levels, providing 20 minutes for reading and 30 minutes for responding. Clear instructions and consistent testing conditions were maintained throughout to minimize procedural and performance bias. Standardization in administration is critical in quantitative research, as it reduces variability unrelated to the constructs being measured and enhances the reliability of results (Creswell & Creswell, 2023).

Prior to data collection, necessary permissions were secured from school Principal, and informed consent was obtained from each participant. Data were collected anonymously to protect participant identity and ensure honest responses. The structured administration process aligns with best practices in educational assessment research, where controlled environments are essential for obtaining valid and reliable data (American Educational Research Association [AERA] et al., 2014).

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Treatment of Data

Data analysis was conducted using jamovi (Version 2.0) through a three-stage statistical approach: descriptive statistics, Pearson correlation, and linear regression analysis. All statistical analyses, resulting numerical outputs, tables, and graphical representations, including the scatterplot diagrams, were generated using jamovi.

Descriptive statistics (mean scores, group comparisons) were used to profile functional literacy performance across proficiency levels. Descriptive analysis provides foundational insights into data distribution and group differences, serving as a precursor to inferential analysis (Field, 2023). Pearson's product–moment correlation coefficient (r) was used to examine the strength and direction of the relationship between academic grades and functional literacy scores. Pearson correlation is appropriate for continuous variables and is widely used in educational research to assess linear relationships between variables (Cohen et al., 2003). Statistical significance was evaluated using p-values, with $p < .05$ indicating significant relationships. Linear regression analysis was employed to determine the predictive power of academic grades on functional literacy outcomes. Regression analysis allows for the estimation of how much variance in the dependent variable (functional literacy) is explained by the independent variable (academic grades), typically expressed through R^2 values (Field, 2023). This approach aligns with prior literacy research emphasizing the importance of predictive modeling in understanding educational outcomes (Lee & Maerten-Rivera, 2021; Shamshad et al., 2025).

Together, these analytical methods provide a comprehensive understanding of both the relationships and predictive dynamics between academic performance and functional literacy.

Ethical Considerations

Ethical standards were strictly observed throughout the study. Formal ethical clearance was waived due to the nature of the study, which posed minimal risk to participants in an educational research setting. Approval to conduct the data gathering was obtained from the school research committee, composed of six tenured teachers headed by the school principal. Participants were informed about the purpose of the study, and voluntary participation was emphasized. Informed consent was secured, and participants were assured of their right to withdraw at any stage without penalty. Confidentiality and anonymity were maintained by ensuring that no identifying information was collected or disclosed. Data were securely stored and used solely for research purposes. Ethical considerations in educational research are essential to protect participants and ensure the integrity of findings (Creswell & Creswell, 2023).

Furthermore, the study adhered to principles of beneficence and non-maleficence by ensuring that participation posed no harm and that findings would contribute to improving literacy instruction and educational outcomes. Transparency in reporting methods and results was also maintained to uphold research credibility and replicability.

RESULTS AND DISCUSSION

1. Descriptive Analysis

The study involved ninety learners evenly distributed across three proficiency categories: low, average, and high with thirty students per category and balanced representation from Grades 10, 11, and 12 (ten per category per grade level). This equal distribution ensured comparability across groups and minimized sampling bias when examining functional literacy performance across learning levels.

Table 1

Detailed comparison of average grades and scores from four real-life reading activities from each category within three grade levels

Grade Level	*Category	Grade Average	News Article	Bus Schedule	Recipe	Electric Bill	Average
GRADE 12	A	95.5	8.6	7.9	8.2	6.7	7.85
	B	86.6	3.9	5.1	5.9	4.1	4.75
	C	80.7	3.2	4.9	4.1	2.6	3.7
GRADE 11	A	92	7	8.1	6.7	5.6	6.85
	B	86.2	5.4	6.9	5.8	4	5.52
	C	79.4	3.1	3.2	4.1	2.2	3.15

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GRADE 10	A	91.7	7.4	9.6	7.3	7.9	8.05
	B	85.7	3.2	6.8	6.2	4.6	5.2
	C	79.3	2.2	4	4.1	3.1	3.35

**Category A refers to Highly Proficient learners while category B and C refers to Moderately Proficient and Low Proficient Learners respectively.*

Table 1 presents the descriptive statistics of functional literacy scores across the low-, average-, and high-performing learners' groups. The results indicate that highly proficient learners (A) consistently achieved higher average scores across the four real-life reading activities, with averages of 7.85, 6.85, and 8.05 for Grades 12, 11, and 10, respectively. In comparison, moderately proficient learners (B) obtained averages of 4.75, 5.52, and 5.2, while low-proficient learners (C) recorded averages of 3.7, 3.15, and 3.35, respectively. Bus schedule interpretation generally yielded higher scores, whereas electric bill analysis tended to produce lower scores. Overall, the results indicate a clear performance gradient across the three proficiency categories, consistent with their classification levels.

Table 2

Averages of Averages and Scores of four real-life reading activities across three grade levels

*Category	Ave	News Article	Bus schedule	Recipe	Electric Bill	Mean Scores Across Four Activities
A	93.07	7.7	8.5	7.4	6.7	7.58
B	86.17	4.2	6.3	6.0	4.2	5.16
C	79.8	2.8	4.0	4.1	2.6	3.4

**Category A refers to Highly Proficient learners while category B and C refers to Moderately Proficient and Low Proficient Learners respectively.*

Table 2 presents learners' average academic grades and mean scores across four real-life reading tasks across Grades 10, 11, and 12, categorized according to their proficiency levels. The highly proficient learners (A) obtained the highest average of 93.07, followed by the moderately proficient group (B) with an average of 86.17, and low-proficiency group (C) with the lowest academic grade average of 79.8.

Functional literacy performance, based on four real-life reading tasks, revealed similarly stratified patterns. In news article analysis, highly proficient learners obtained the highest mean of 7.7, followed by moderately proficient learners with mean of 4.2 and low-proficient learners with mean of 2.8, indicating substantial gaps in higher-order comprehension. A similar pattern emerged in bus schedule interpretation, with mean scores of 8.5, 6.3, and 4.0, respectively. In recipe interpretation, the corresponding mean scores were 7.4, 6.0, and 4.1. The greatest difference between highly and low-proficient learners was observed in electric bill interpretation, where their mean scores were 6.7 and 2.6, respectively, while moderately proficient learners obtained a mean score of 4.2. Overall, highly proficient learners consistently outperformed the other groups across all four tasks, suggesting differences in their ability to interpret and apply information in practical reading contexts.

Functional literacy scores across all four tasks further emphasized these gradients. The high-proficient learners achieved the strongest composite performance with mean of 7.58, followed by the average group with mean of 5.16 and the low-proficient group with mean of 3.4. The absence of outliers or anomalous scores indicates consistent performance patterns within and across groups, strengthening the validity of subsequent statistical analyses.

Overall, the descriptive findings established systematic differences in functional literacy performance across academic proficiency levels. The consistent gradient provided the basis for examining whether academic grades were statistically associated with performance on individual authentic reading tasks and with overall functional literacy. Accordingly, Pearson's product–moment correlations were conducted to determine the strength and direction of these relationships.

The study revealed a consistent and systematic association between students' academic performance and functional literacy across four real-life tasks. Descriptively, learners with higher academic grades consistently outperformed peers on tasks requiring comprehension, procedural interpretation, and interpretation of utilitarian texts, indicating that broader academic proficiency may reflect deeper mastery of complex literacy skills. This aligns with meta-analytic evidence demonstrating a robust relationship between literacy skills and overall academic achievement, wherein students with stronger foundational literacy consistently show higher academic outcomes across contexts (Kurniawati, 2024). Such evidence supports the argument that academic grades, while traditionally subject-specific, are integrally linked with a learner's ability to interpret and apply text-based information. Instructionally, this pattern suggests that comprehension and application of information should remain embedded in regular classroom learning rather than treated solely as isolated literacy activities.

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2. Correlational Analysis

To determine the relationship between students' academic performance and their functional literacy skills, Pearson's product–moment correlations (*r*) were computed using individual scores across four authentic reading tasks and an overall composite functional literacy measure.

Table 3

Correlational Matrix of Average Grades and Scores from Analysis of News Article

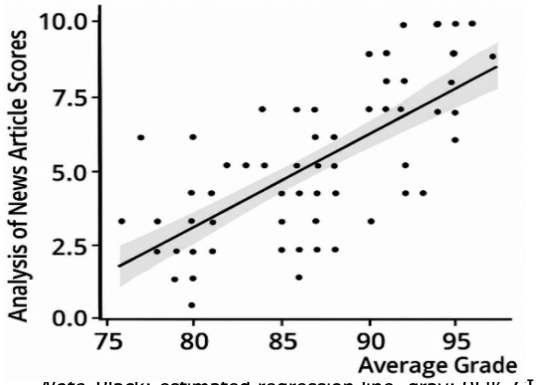
Variables	Pearson's *r*	95% CI	*p*-value	df	N
Average Grades x Scores from Analysis of News Articles	.734	[.622, .817]	<.001	88	90

As presented in Table 3, a strong positive correlation emerged between academic grades and scores on the newspaper article analysis task with correlation coefficient of $r = .734$, a 95% confidence interval of [.622, .817], and p value of less than .001.

Note. All five correlation analyses involved 90 participants (N = 90), with 88 degrees of freedom (df = 88).

Figure 2

Scatter Plot Diagram for Analysis of News Paper Article



Note. Black: estimated regression line, gray: 95% CI

Figure 2 presents the scatter plot diagram of analysis of newspaper article showing a positive linear pattern between average grades and news article analysis scores. Learners with higher average grades generally obtained higher analysis scores, although some variability is evident among the data points. This indicates a substantial association between academic standing and the ability to interpret informational texts.

Table 4

Correlational Matrix of Average Grades and Scores from Bus Schedule Interpretation

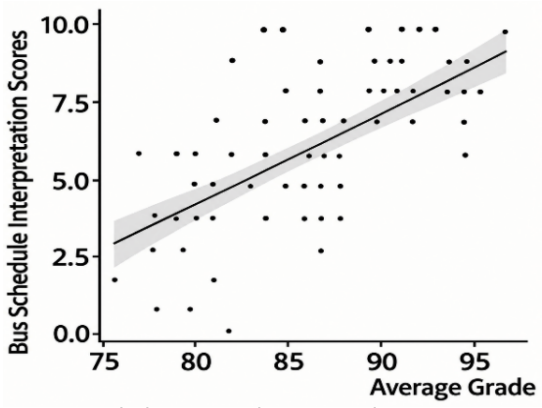
Variables	Pearson's *r*	95% CI	*p*-value	df	N
Average Grades x Scores from Bus Schedule Interpretation	.700	[.576, .792]	<.001	88	90

Similarly, as shown in Table 4, a strong positive correlation emerged between academic grades and scores in bus schedule interpretation task with correlation coefficient of $r = .700$, a 95% confidence interval of [.576, .792], and p value of less than .001.

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Figure 3

Scatter Plot Diagram for Bus Schedule Interpretation



Note. Black: estimated regression line, gray: 95% CI

Figure 3 presents a scatter plot diagram showing a positive linear relationship between average grades and bus schedule interpretation scores. The upward-sloping regression line indicates that higher average grades generally correspond to higher interpretation scores, although the data points show some variability around the line. This indicates that performance in interpreting time and sequence-based information also varied significantly by academic standing.

Table 5

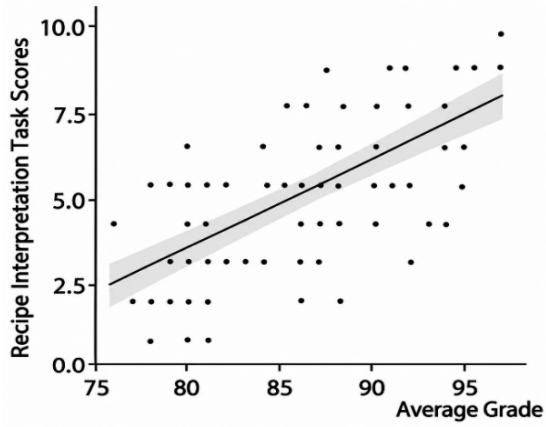
Correlational Matrix of Average Grades and Scores from Recipe Interpretation Task

Variables	Pearson's *r*	95% CI	*p*-value	df	N
Average Grades x Scores from Recipe Interpretation Task	.672	[.540, .771]	<.001	88	90

As shown in Table 5, the analysis yielded a moderately strong positive correlation between academic grades and scores in recipe interpretation task with correlation coefficient of r = .672, a 95% confidence interval of [.540, .771], and p value of less than .001.

Figure 4

Scatter Plot Diagram for Recipe Interpretation Task



Note. Black: estimated regression line, gray: 95% CI

Figure 4 presents the scatter plot diagram showing a positive linear relationship between average grades and recipe interpretation scores. The upward-sloping regression line indicates that learners with higher average grades

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generally obtained higher recipe interpretation scores, although variability among individual scores remains evident. This finding suggests that academic proficiency was also associated with learners' ability to interpret recipes and apply mathematical information in practical, everyday situations.

Table 6

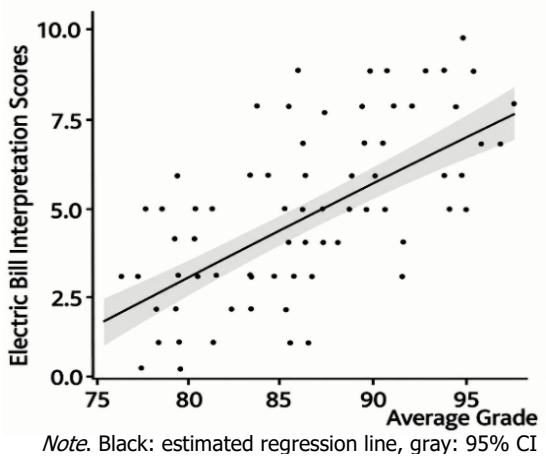
Correlational Matrix of Average Grades and Scores from Electric Bill Interpretation

Variables	Pearson's *r*	95% CI	*p*-value	df	N
Average Grades x Scores from Electric Bill Interpretation	.692	[.566, .786]	<.001	88	90

As shown in Table 6, the analysis yielded a strong positive correlation between academic grades and electric bill interpretation scores with correlation coefficient of $r = .692$, a 95% confidence interval of [.566, .786], and p value of less than .001.

Figure 5

Scatter Plot Diagram for Electric Bill Interpretation



Note. Black: estimated regression line, gray: 95% CI

Figure 5 presents the scatter plot diagram showing a positive linear relationship between average grades and electric bill interpretation scores. The upward-sloping regression line indicates that learners with higher average grades generally achieved higher scores in interpreting electric bills, although some variability is evident among individual observations. The relationship demonstrates that performance in numeracy-integrated and utilitarian reading tasks was also significantly associated with academic proficiency.

Table 7

Correlational Matrix of Average Grades and Scores Across Four Reading Task

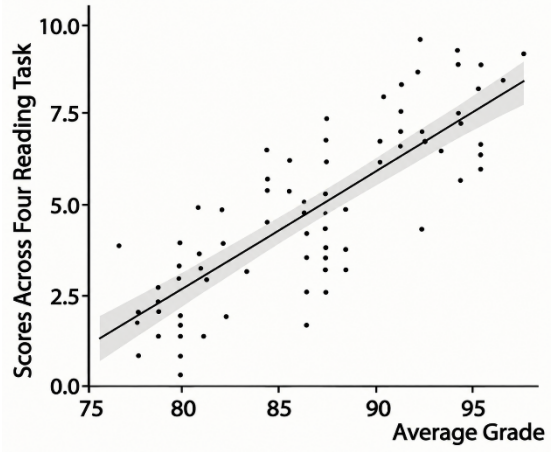
Variables	Pearson's *r*	95% CI	*p*-value	df	N
Average Grades x Scores Across Four Reading Task	.836	[.761, .889]	<.001	88	90

As presented in Table 7, across all four tasks, the overall composite functional literacy score exhibited a very strong positive correlation with academic grades with correlation coefficient of $r = .836$, a 95% confidence interval of [.761, .889], and p value of less than .001.

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Figure 6

Scatter Plot Diagram for Scores Across Four Reading Task



Note. Black: estimated regression line, gray: 95% CI

Figure 6 presents the scatter plot diagram showing a positive linear relationship between average grades and scores across the four reading tasks. The upward-sloping regression line indicates that learners with higher average grades generally obtained higher combined reading task scores, although variability among individual observations remains evident. This coefficient demonstrates a strong overall association between academic performance and students' aggregated ability to navigate and comprehend diverse real-life reading materials. The consistency of the correlations across task types further indicates a common relationship between formal academic achievement and functional literacy performance.

Collectively, the correlational findings established that the relationship between academic grades and functional literacy was not limited to a single type of authentic reading task. The consistent and statistically significant associations provided a basis for examining the predictive contribution of academic grades to overall functional literacy performance. Therefore, a linear regression analysis was conducted to determine the extent to which academic grades predicted functional literacy outcomes and the proportion of variance explained by academic grades.

The strong correlational relationships found across all functional literacy tasks corroborate extant research emphasizing that reading proficiency and academic achievement are mutually reinforcing. Studies in Philippine contexts have reported similar patterns, where reading comprehension is significantly associated with performance in core academic subjects, underscoring the centrality of literacy in holistic student performance (Bagcat, 2025; Castillo, 2025). The consistency across task types also suggests that classroom assessment may benefit from including authentic materials that require learners to interpret and apply information, alongside conventional measures of academic achievement. Such assessment can help teachers identify differences between academic performance and practical literacy competence.

3. Regression Analysis

The simple linear regression analysis presented in Tables 8 and 9 examined whether academic grade significantly predicts overall functional literacy score among the 90 respondents.

Table 8

Model Fit Measures

				Overall Model Test			
Model	**R**	**R^2**	**Adjusted R^2**	**F**	**df1**	**df2**	***p***
1	0.836	0.699	0.696	205	1	88	<.001

Note. Models estimated using sample size of N=90

As shown in Table 8, the regression model was statistically significant, $F(1, 88) = 205.00$, $p < .001$. The model yielded a strong positive correlation ($R = .836$) and an R^2 of .699, indicating that academic grade explained 69.9% of

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the variance in overall functional literacy scores. The adjusted R^2 of .696 indicates that approximately 69.6% of the variance remained accounted for after adjusting for the number of predictors in the model.

TABLE 9

Simple Linear Regression Predicting Overall Functional Literacy Score from Academic Grade

Predictor	B	SE	95% CI for B	B	T	*p*
Intercept	−19.98	—	—	—	—	—
Academic Grade	0.294	0.021	[0.253, 0.334]	.836	14.30	< .001

Note. Model Fit Measures and Model Coefficients tables are generated using jamovi (Version 2.0; The jamovi Project,

As presented in Table 9, academic grade was a statistically significant positive predictor of overall functional literacy, B = 0.294, SE = 0.021, β = .836, t(88) = 14.30, p < .001, 95% CI [0.253, 0.334]. The resulting regression equation was $\hat{Y} = -19.98 + 0.294X$, where $\hat{Y}$ represents the predicted overall functional literacy score and X represents academic grade. The positive unstandardized coefficient indicates that higher academic grades were associated with higher predicted functional literacy scores. Specifically, for every one-point increase in academic grade, the predicted overall functional literacy score increased by approximately 0.294 points.

The standardized coefficient, β = .836, indicates a strong positive predictive relationship between academic grade and overall functional literacy. Because the confidence interval for the unstandardized coefficient does not include zero and the p value is below .001, the predictive relationship is statistically significant. Overall, the findings indicate that academic grades are a significant predictor of overall functional literacy among the respondents, with the model accounting for a substantial proportion of the observed variance in functional literacy scores.

The regression results further extend the correlational findings by indicating that academic grades are a significant predictor of functional literacy outcomes, explaining a substantial proportion of variance in real-life reading performance. This predictive relationship reinforces the theoretical perspective that academic performance reflects not only content mastery but also the aptitude to engage in authentic literacy practices. Comparable predictive relationships have been observed in broader educational research, where reading proficiency significantly forecasts achievement in higher-order cognitive tasks (Oguntade, 2021; Kurniawati, 2024). The finding may also inform the design of literacy interventions, particularly for learners demonstrating lower academic performance, through scaffolded comprehension activities, guided interpretation of authentic texts, and repeated opportunities to apply information in practical contexts. At the curriculum level, the results support the inclusion of functional literacy experiences across learning areas, while school leaders may use such evidence to support literacy-focused instructional planning and teacher development.

Notwithstanding the strength of these findings, certain limitations merit consideration. The study's scope was confined to learners from a single rural school context, which may limit generalizability to more diverse educational settings. Additionally, while the tasks used span several types of functional literacy, other domains such as digital or health literacy remain unexplored. Future research should examine these additional domains and employ longitudinal designs to better understand causal pathways between academic success and functional literacy development.

Conclusions

Based on the findings of the study, the following conclusions are drawn:

1. Functional literacy scores differed across the three learner proficiency groups, with high-performing learners obtaining the highest overall scores, followed by average- and low-performing learners. This indicates systematic variation in functional literacy performance across academic proficiency levels.
2. Academic grades were significantly and positively related to functional literacy performance across all four authentic reading tasks namely news article analysis, bus schedule interpretation, recipe interpretation, and electric bill analysis.
3. Academic grades were significantly and positively correlated with overall functional literacy scores, establishing a strong overall relationship between academic achievement and functional literacy performance.
4. Academic grades significantly predicted overall functional literacy outcomes within the study's sample and rural school context, explaining a substantial proportion of the observed variance in functional literacy scores. This predictive relationship provides relevant evidence for comparable educational settings and warrants further examination across diverse contexts.
5. Functional literacy performance was systematically associated with academic proficiency among the Grades 10, 11 and 12 learners examined in this study. The findings indicate that functional literacy competencies are relevant to the broader assessment of learner achievement beyond conventional academic performance.

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6. The findings provide empirical evidence relevant to curriculum development, instructional planning, classroom assessment, literacy intervention, and educational policy, particularly in comparable rural educational contexts. They support greater consideration of authentic functional literacy competencies in efforts to strengthen learners' ability to understand, interpret, and apply information in real-life situations.

Recommendations

Based on the conclusions of the study, the following recommendations are offered.

1. The study recommends that classroom teachers, literacy coordinators, and curriculum specialists may strengthen the integration of functional literacy tasks across all subject areas by embedding authentic reading materials such as schedules, informational texts, and financial documents into classroom instruction.
2. Classroom teachers may prioritize comprehension, interpretation, and application skills alongside content mastery to help ensure that academic learning can translate into real-world literacy competence.
3. School literacy coordinators and classroom teachers may develop targeted intervention programs for low-performing learners, focusing on scaffolded reading strategies, guided comprehension exercises, and repeated exposure to functional texts.
4. School principals, instructional leaders, and teacher education institutions may emphasize and support teacher training on instructional approaches that promote functional literacy development, particularly in rural school contexts where learning resources may be limited.

Implications

The study implies that academic grades are not merely indicators of subject mastery but also are associated with students' ability to perform functional literacy tasks. This highlights the need to treat functional literacy as a cross-curricular concern, with teachers integrating authentic literacy tasks into instruction and assessment. For school leaders, the findings may inform instructional supervision and professional development, while teacher education programs may strengthen preparation in authentic literacy instruction and assessment.

At the policy and curriculum level, the findings may support consideration of functional literacy in curriculum evaluation, assessment systems, and literacy initiatives, particularly in rural education settings. Educational policymakers and curriculum developers may use such evidence to promote learning experiences that connect academic content with practical literacy demands. Future research may further examine contextual and instructional factors influencing functional literacy development across diverse educational settings.

Acknowledgments and Declaration of Conflict of interest

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