INTERNATIONAL JOURNAL OF INNOVATIVE STUDIES
A MONTHLY, INDEXED, REFEREED AND PEER REVIEWED OPEN ACCESS INTERNATIONAL JOURNAL
VOL.1. ISSUE.1, 2025 (January)

RESEARCH ARTICLE

ISSN: 3027-2173

# FACTORS INFLUENCING THE PERFORMANCE OF MULTI-GRADE CLASS IN LITERACY AND NUMERACY

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Article Information

Received 13th December, 2025

Accepted: 15th January, 2025

Published: 4th February 2025

KEYWORDS: Academic performance, Influencing factors, literacy, multi-grade classrooms, numeracy

Publisher: Empirical Studies and Communication – (A Research Center)
Website: www.cescd.com.ng

Journal URL:
https://ijois.com/index.php/ijoisjournal

## ABSTRACT

This study examines the academic performance of multi-grade learners in reading and numeracy within the Salcedo District, with a focus on the factors influencing their achievement. Recent assessments highlight concerning trends: 73.7% of Grade 5 learners and 69.2% of Grade 6 learners read below the frustration level, while 78.2% of Grade 5 learners and 65.3% of Grade 6 learners exhibit low numeracy proficiency. A significant proportion of these learners belong to multi-grade classes. The research aims to identify and analyze the contributing factors to these outcomes, offering insights to guide program development, refine instructional strategies, and improve resource allocation. Employing a descriptive-correlational research design, the study sampled 171 multi-grade learners from Grades 5 and 6, selected randomly from a population of 300. Data collection involved a standardized questionnaire capturing demographic profiles, literacy and numeracy performance, and perceived influencing factors. Statistical analysis utilized descriptive tools (frequency counts, mean scores, percentages, and Likert scale analysis) and correlation techniques (Chi-Square test and Pearson's r) to examine relationships among the variables. The results revealed a significant positive correlation between literacy and numeracy performance and both pupil-related and teacher-related factors (p-value = .000), underscoring their vital roles in shaping educational outcomes. Conversely, environmental factors showed negligible correlations with performance outcomes (p-values of .233 for literacy and .645 for numeracy), indicating minimal influence within the study's context. This study underscores the urgent need for targeted interventions to address socio-economic barriers and improve instructional quality in multi-grade settings. By tackling these critical factors, stakeholders can design more effective programs to enhance the academic performance of multi-grade learners, fostering equitable and meaningful educational opportunities.

## Introduction

Multi-grade classrooms are common in areas with low enrollment, where one teacher handles multiple grade levels in a single class. Effective learning in such settings relies on well-organized, well-resourced environments and well-trained teachers equipped with strategies to address diverse learner needs (Brown, 2019).

These classrooms play a key role in expanding access to basic education, especially in remote areas. Efforts to improve instructional quality include teacher training, curriculum development, and tailored learning materials, which help enhance reading and numeracy skills among low-achieving students. The approach to instruction in multi-grade settings often differs from monograde classrooms, offering unique opportunities to support learners.

Literacy and numeracy are essential for improving social, educational, and career prospects (Kangan Institute, 2020). However, many education systems struggle to provide effective environments for these skills. In the Philippines, PISA results show only 16% of students meet basic proficiency in mathematics, and 24% reach minimum standards in reading—well below OECD averages (OECD, 2021). These gaps limit students' future opportunities, emphasizing the need for targeted interventions.

Recent reading assessments in the Salcedo District reveal that 73.7% of Grade 5 learners and 69.2% of Grade 6 learners are at or below the frustration level, with a significant portion coming from multi-grade classes. Similarly, 78.2% of Grade 5 and 65.3% of Grade 6 students exhibit low numeracy proficiency, 25% of whom are from multi-grade setting which is quite alarming.The researcher aims to investigate the performance of multi-grade learners in reading and numeracy in the Salcedo District, focusing on factors impacting their skills in these essential areas. The study's findings will help develop programs to support teachers in improving reading and numeracy outcomes in multi-grade classrooms.

### 1.1 Research Objectives

This study aims to achieve the following objectives:

•To determine the demographic profile of Grades 5 and 6 multi-grade learners in terms of:

- Sex;
- Age;
- Parents' highest educational attainment; and
- Family monthly income.

•To assess the frequency of factors affecting performance in reading and numeracy skills in multi-grade classes, focusing on:

- Pupil-related factors;
- Environmental factors; and
- Teacher factors.

•To evaluate the literacy and numeracy skill levels of Grades 5 and 6 multi-grade learners.

- To analyze the relationship between the demographic profile of multi-grade learners and their academic performance in reading and numeracy.

- To examine the relationship between selected factors and literacy performance among multi-grade learners.

- To examine the relationship between selected factors and numeracy performance among multi-grade learners.

1.2 Research Gap

Multi-grade classrooms, common in areas with low teacher-student ratios, have been identified as a viable solution for improving access to education in the Philippines. However, there is limited study on how this classroom setting affects students' literacy and numeracy skills. While studies emphasize the importance of effective teaching strategies and resources (Brown, 2019; OECD, 2021), there is insufficient exploration on to how these factors apply specifically in multi-grade classrooms. Despite efforts like the Early Language, Literacy, and Numeracy Program (ELLN) and "Catch-up Friday" to improve these skills, their impact in multi-grade settings is not well-studied. This research aims to fill this gap by exploring the factors influencing reading and numeracy performance in multi-grade classrooms in Second District of the Province of Eastern Samar.

2. Literature Review

Kyne (2019) categorizes multi-grade classes into two types: combination and pedagogic. In combination multi-grade classes, a single teacher instructs multiple grade levels across all subjects. In contrast, pedagogic multi-grade classes involve a team of teachers handling different subjects for students of various grades. This model emphasizes the development of literacy and numeracy, essential competencies in students' academic and cognitive growth. Woodward (2020) highlights reading as a vital tool for preserving knowledge, while the Victorian Curriculum and Assessment Authority (2019) emphasizes numeracy as a critical life skill that enables problem-solving and decision-making.

Reading and numeracy skills are foundational to student success. Raymundo (2023) and Kurmaniak (2021) noted that as students grow, their understanding and application of these skills become more complex. According to Orpwood, Schmidt & Jun (2022), numeracy skills have never been more crucial, with Essential Skills Ontario (2022) identifying practical dimensions such as budgeting and data analysis. Thompson et al. (2019) further stress that reading proficiency is shaped by environmental factors, including the teacher's and family's influence. Aranda (2020) suggests that family support and teacher enthusiasm significantly enhance student motivation.

The Ministry of Education (2021) and TIMSS (2020) report challenges in Malaysian students' numeracy, while the Philippines has faced similar issues, ranking poorly in international assessments like PISA (2022). The socio-economic gap in math performance, as noted by DepEd - National Report of the Philippines (2023), is narrowing, though performance still lags behind global peers.

Research into numeracy and literacy in multi-grade classrooms highlights the importance of early math exposure. Harris & Petersen (2019) argue that early mastery of basic math concepts sets students up for long-term success. Clerkin & Gilligan (2019) found a strong link between early numeracy activities and later success, with parents playing a crucial role as first educators. Environmental factors, both social and emotional, significantly impact

literacy and numeracy outcomes (McGuirre, 2022; Wali, 2020).
In the classroom, a well-structured yet dynamic environment fosters student engagement and learning. Teachers' behaviors, attitudes, and use of teaching materials directly influence students' academic achievements (Khayati & Payan, 2020; Liu, 2018). Moreover, cooperative learning strategies and supportive teacher-student interactions enhance motivation and performance in math and language (Anwar et al., 2020; Chan & Idris, 2019).

Parental involvement continues to be a strong factor in improving literacy and numeracy skills. Studies by Cheung (2019) and Zippert & Rittle-Johnson (2019) show how home-based activities, such as card games and reading, support children's academic growth. Creating a distraction-free space for study is also essential for student success (Patall, Cooper, & Robinson, 2019; Solari & Mare, 2021).

This review synthesizes various studies that address the factors influencing literacy and numeracy performance in multi-grade classrooms, offering valuable insights for future educational improvements.

## 3. Research Methodology

The study employed quantitative research methods, utilizing a descriptive-correlational research design. As noted by IvyPanda (2022), this design is well-suited for studies that aim to provide a static representation of situations and establish relationships between variables. Specifically, a close-ended survey questionnaire was used to collect data from respondents, enabling the researcher to analyze, describe, and interpret their profiles and the factors influencing the numeracy and literacy skills of multi-grade learners. This approach facilitated a comprehensive understanding of the factors affecting student performance.

Descriptive statistics, such as frequency, percentage, and mean, were employed to summarize and present the data. Additionally, the correlational aspect of the design allowed for the examination of the degree and direction of relationships between variables, without any direct manipulation or control. Correlations, as explained by Bhandari (2021), can indicate either a positive or negative relationship between two or more variables. In this study, the main variables analyzed were the factors influencing numeracy and literacy and the levels of numeracy and literacy among multi-grade learners, as measured through their scores.

By combining descriptive and correlational approaches, the study ensured a robust analysis of the data collected, yielding valuable insights into the interplay between the identified factors and the learners' performance.

## 4. Analysis and Discussion

The analysis and discussion of the data gathered from this study focus on understanding the relationship between various demographic, environmental, and personal factors, and the literacy and numeracy performance of multi-grade pupils in Grades 5 and 6.

The following section presents a detailed breakdown of the findings, highlighting the distribution of respondents based on their sex, age, parents' educational attainment, and family income. It also discusses the levels of literacy and numeracy skills among the pupils, as well as the various factors influencing their academic performance.

The results provide valuable insights into the variables that significantly impact the educational outcomes of multi-grade learners, offering a foundation for developing targeted interventions to improve literacy and numeracy skills.

Table 1. Distribution of Respondents according to Sex

| Category | Frequency | Percentage |
|---|---|---|
| Male | 118 | 69% |
| Female | 53 | 31% |
| Total | 171 | 100% |

The table above presents the biological sex of the respondents. It can be observed that one hundred eighteen (118) respondents, or sixty-nine percent (69%), were male, while fifty-three (53) respondents, or thirty-one percent (31%), were female.

This finding suggests that the majority of the data collected reflects male perspectives, which could influence the overall outcomes of the study. It highlights the importance of ensuring gender-balanced responses in future research to provide a more comprehensive and inclusive understanding of the subject matter.

Table 1.1. Distribution of Respondents According to Age.

| Category | Frequency | Percentage |
|---|---|---|
| 8 years old | 0 | 0% |
| 9 years old | 0 | 0% |
| 10 years old | 108 | 63% |
| 11 years old | 56 | 33% |
| 12 years old and above | 7 | 4% |
| Total | 171 | 100% |

Table 1.1 reveals the age distribution of the respondents. It can be observed that the majority of the respondents, comprising one hundred eight (108) or sixty-three percent (63%) of the total, were 10 years old. Fifty-six (56) or thirty-three percent (33%) of the respondents were 11 years old, while seven (7) or four percent of the respondents were 12 years old and above. Notably, there were no respondents within the 8 to 9 years old age range.

This suggests that the age distribution of Grades 5 and 6 multi-grade learners predominantly falls within the 10-11 year age range, indicating that most students are within the typical developmental stage for their grade levels. This age distribution may influence their learning needs and engagement strategies, particularly in a multi-grade classroom setting.

Table 1.2. Distribution of Respondents According to Parents' Educational Attainment

| Category | Frequency | Percentage |
|---|---|---|
| Elementary Level | 18 | 11% |

| | | |
|---|---|---|
| Elementary Graduate | 49 | 29% |
| High School Level | 21 | 12% |
| High School Graduate | 43 | 25% |
| College Level | 23 | 13% |
| College Graduate | 17 | 10% |
| Total | 171 | 100% |

Table 1.2 shows the highest educational background of the parents of the respondents. It can be seen from the table that out of 171 respondents, forty-nine (49) or twenty-nine percent (29%) of the parents were elementary graduates, and forty-three (43) or twenty-five percent (25%) were high school graduates. On the other hand, there were twenty-three (23) or thirteen percent (13%) of parents at the college level, while twenty-one (21) or twelve percent (12%) were at the high school level, eighteen (18) or eleven percent (11%) had an educational attainment at the elementary level, and seventeen (17) parents were college graduates.

This distribution indicates a diverse range of educational backgrounds, with the majority of parents having completed only elementary or high school, which could potentially influence the educational support and aspirations they provide to their children.

According to the data presented, parents' educational attainment plays a significant part in determining how well their children perform in reading and numeracy and in determining the educational literacy issues of their scholars.

Table 1.3 Distribution of respondents according to Family's Monthly Income. Texture

| Category | Frequency | Percentage |
|---|---|---|
| Php 5,000.00 below | 36 | 21% |
| Php 5,100 – 10,000 | 57 | 33% |
| Php 10,100 – 15,000 | 29 | 17% |
| Php 15,100 – 20,000 | 12 | 7% |
| Php 20,100 – 25,000 | 16 | 10% |
| Php 25,100 and above | 21 | 12% |
| Total | 171 | 100% |

Table 1.3 revealed the monthly income of the families of the respondents. In detail, fifty-seven (57) or thirty-three percent (33%) of the families earned Php 5,100 – 10,000 a month, which falls below the majority income brackets or the lower income bracket. On the other hand, thirty-six (36) or twenty-one percent (21%) of the families earned Php 5,000 and below, classifying them in the lower income bracket. This means that fifty-four percent (54%) of the respondents come from low-income families, which may struggle with financial constraints that could possibly impact their children's performance.

Furthermore, twenty-nine (29) or seventeen percent (17%) of the respondents' families earned a monthly income ranging from Php 10,100 – 15,000, while twenty-one (21) or twelve percent (12%) earned Php 25,100 and above. Sixteen (16) and twelve (12) families, or seven percent (7%) and ten percent (10%) respectively, earned a monthly income ranging from Php 15,100 – 25,000.

This data clearly shows that the majority of the respondents' families have a monthly income ranging from Php 15,000 below. The distribution of monthly income plays a significant role in shaping the literacy and numeracy skills of pupils. Lower-income families may face more challenges than higher-income families, which can impact their children's literacy and numeracy performance.

Table 2. Level of Literacy skills of Grades 5 and 6 multi-grade pupils

| Level | Frequency | Percentage |
|---|---|---|
| Independent | 68 | 40% |
| Instructional | 65 | 38% |
| Frustration | 38 | 22% |
| Total | 171 | 100% |

Table 2 shows the level of reading/literacy skills of the respondents. Out of 171 respondents, sixty-eight (68) or forty percent (40%) were at the Independent level of literacy skills, sixty-five (65) or thirty-eight percent (38%) were at the Instructional level, and thirty-eight (38) or twenty-two percent (22%) were at the Frustration level.

The data implies that while a significant portion of pupils from Grades 5 and 6 multi-grade learners are managing well or are on the right track, there is still a critical need to focus on perfecting literacy support for those who are struggling to reduce frustration and improve overall literacy outcomes.

Table 3. Level of Numeracy skills of Grades 5 and 6 multi-grade pupils

| Level | Frequency | Percentage |
|---|---|---|
| Highly Proficient | 53 | 31% |
| Proficient | 71 | 42% |
| Nearly Proficient | 26 | 15% |
| Low-Proficient | 21 | 12% |
| Non-Proficient | 0 | 0% |
| Total | 171 | 100% |

Table 3 shows the level of numeracy skills of Grades 5 and 6 respondents. In detail, seventy-one (71) or forty-two percent (42%) of the respondents fall under the Proficient numeracy level, fifty-three (53) or thirty-one percent (31%) were Highly Proficient, twenty-six (26) or fifteen percent (15%) of the respondents fall under Nearly Proficient, and twenty-one (21) or

twelve percent (12%) fall under the Low-Proficient level. No respondent was categorized as Non-Proficient.

The data imply that there was strong overall performance in numeracy among Grades 5 and 6 pupils, with the majority of students performing at or above the expected levels. However, attention should be given to the smaller percentages of students who are "Nearly Proficient" and "Low-Proficient" to help them improve and achieve higher proficiency levels. The lack of "Non-Proficient" students is a positive indicator of the overall effectiveness of the teaching and learning process, as well as the smooth implementation of numeracy program education.

Table 4. Frequency level of the factors influencing performance in literacy and numeracy skills of the respondents

Statements Mean Description Interpretation

Pupil- related Factors

1. I do well in literacy and numeracy 3.70 Agree Always Observed

2. I do extra effort to learn how to read and perform fundamental operations in math. 3.70 Agree Always Observed

3. I listen attentively to the lecture of my teacher 3.79 Agree Always Observed

4. I actively participate in the discussion, answering exercises and/or clarifying things I did not understand. 3.75 Agree Always Observed

5. I am feeling sleepy and bored during Numeracy and literacy sessions 2.89 Undecided Sometimes Observed

6. There are reference materials (e.g. books, internet, others) while I'm learning 2.99 Undecided Sometimes Observed

7. There are supplementary reading materials for me to read at home. 3.08 Undecided Sometimes Observed

8. I practice Solving math problems during vacant period 3.70 Agree Always Observed

9. I am interested in reading and numeracy activities prepared by my teacher. 3.81 Agree Always Observed

10. I practice reading and Solving math problems alone. 3.60 Agree

Always Observed

Total 3.50 Agree Always Observed

Environmental Factors

11. My classroom is free from noise and disturbance 3.12 Undecided Sometimes Observed

12. I am distracted by other visual items inside the classroom. 4.30 Strongly Agree Frequently Observed

13. The arrangement of seats in the classroom is appropriate. 4.47 Strongly Agree Frequently Observed

14. The good atmosphere in the classroom

motivates me as a learner. 4.36 Strongly Agree Frequently Observed

15. I am pleased with my classroom physical

condition. 4.12 Agree Always Observed

16. My family help me in my math assignments 3.16 Agree Always Observed

17. I am comfortable in studying at home. 4.47 Strongly Agree Frequently Observed

18. I prefer finishing and studying my assignments first before watching any television program. 3.01 Undecided Sometimes Observed

19. During the time of learning, my parents/guardians give me household chores. 2.87 Undecided Sometimes Observed

20. I am comfortable working doing reading and numeracy exercises at home. 3.23 Undecided Sometimes Observed

Total 3.71 Agree Always Observed

Teacher Factors

21. Explains the lesson clearly 4.41 Strongly Agree Frequently Observed

22. My teacher uses teaching aids/devices 4.44 Strongly Agree Frequently Observed

23. Imposes proper discipline. 4.40 Strongly Agree Frequently Observed

24. My teacher is open to suggestions and opinions 4.44 Strongly Agree Frequently Observed

25. My teacher is organized in presenting the lesson 4.41 Strongly Agree Frequently Observed

26. My teacher's method of teaching fits my way of learning. 4.43 Strongly Agree Frequently Observed

27. Easily reach out whenever there were difficulties of the lesson. 4.37 Strongly Agree Frequently Observed

28. My teacher provides various activities 4.44 Strongly Agree Frequently Observed

29. My teacher encourages cooperation and participation 4.44 Strongly Agree Frequently Observed

30. My teacher makes lessons interesting 4.43 Strongly Agree Frequently Observed

| | | | |
|---|---|---|---|
| Total | 4.42 | Strongly Agree | Frequently Observed |

Table 4 above reveals the factors influencing the literacy and numeracy performance of Grades 5 and 6 multi-grade pupils, categorized into pupil-related, environmental, and teacher factors.

In the Pupil-Related Factors, the highest mean score of 3.81 was for the statement "I am interested in reading and numeracy activities prepared by my teacher," categorized as "Agree" and "Always Observed," indicating that pupils find the activities engaging. The lowest score, 2.89, was for "I am feeling sleepy and bored during Numeracy and Literacy sessions," categorized as "Undecided" and "Sometimes Observed," suggesting occasional boredom but not a major issue.

In the Environmental Factors, both the seating arrangement and home study comfort had the highest mean score of 4.47, reflecting a positive learning environment. The statement "During the time of learning, my parents/guardians give me household chores" had the lowest mean score of 2.87, indicating that chores occasionally interfere with learning but are not a significant issue.

In the Teacher Factors, the statements "My teacher uses teaching aids/devices," "My teacher is open to suggestions and opinions," "My teacher provides various activities," and "My teacher encourages cooperation and participation" all received a mean score of 4.44, indicating frequent positive teacher practices. The lowest score of 4.37 was for "Easily reach out whenever there were difficulties with the lesson," which, though still positive, suggests there may be room for improvement in ensuring consistent support.

Table 5. Distribution of Respondents on their frequency level of the Factors influencing performance in Literacy and Numeracy

| Category | Frequency | Percentage |
|---|---|---|
| Frequently | 17 | 10% |
| Always | 72 | 42% |
| Sometimes | 56 | 33% |
| Seldom | 26 | 15% |
| Never | 0 | 0% |
| Total | 171 | 100% |

Table 5 shows the distribution of respondents based on the frequency level of factors influencing their literacy and numeracy performance. Seventy-two (72) or 42% of respondents rated the factors as "Always Observed." Fifty-six (56) or 33% rated them as "Sometimes Observed." Meanwhile, twenty-six (26) or 15% rated the factors as "Seldom," and seventeen (17) or 10% rated them as "Frequently Observed."

Table 6. Correlation between the Demographic profile and the level of literacy and numeracy of multi-grade respondents

| Variable 1 | Variable 2 | Pearson Chi - Square | Interpretation | p-value | Interpretation |
|---|---|---|---|---|---|
| Sex | Literacy | .720 | Strong Positive Correlation | .000 | Highly Significant |
| Sex | Numeracy | .750 | Strong Positive Correlation | .000 | Highly Significant |
| Age | Literacy | .773 | Strong Positive Correlation | .000 | Highly Significant |
| Age | Numeracy | .771 | Strong Positive Correlation | .000 | Highly Significant |
| Parents Educational Attainment | Literacy | .863 | Strong Positive Correlation | .000 | Highly Significant |
| Parents Educational Attainment | Numeracy | .870 | Strong Positive Correlation | .000 | Highly Significant |
| Monthly Income | Literacy | .841 | Strong Positive Correlation | .000 | Highly Significant |
| Monthly Income | Numeracy | .837 | Strong Positive Correlation | .000 | Highly Significant |

This section addresses the fourth question of the study, which examines the relationship between demographic variables and the reading and numeracy performance of multi-grade pupils. To assess the correlation between variables, the Chi-Square Test was used, ensuring reliable and valid results. Table 6 shows the correlation between the demographic variables and the levels of literacy and numeracy, along with the corresponding Chi-Square coefficient, p-value, and interpretations.

The data in Table 6 shows that all variables from the demographic profile—sex, age, parents' educational attainment, and monthly income—demonstrated a strong positive correlation with both literacy and numeracy skills. All correlations yielded a p-value of .000, indicating that the relationship is highly significant at the 0.05 level (two-tailed). As a result, the null hypothesis, which suggested there is no significant relationship between the demographic profile and the literacy and numeracy performance of multi-grade pupils, was rejected.

These findings highlight the importance of demographic factors such as sex, age, parents' educational attainment, and monthly income in influencing the literacy and numeracy performance of multi-grade pupils. This suggests the need for targeted educational practices and programs to address these factors effectively.

Table 7. Relationship between selected factors and literacy performance of multi-grade pupils

| Variable 1 | Variable 2 | Correlation Coefficient | | | |
|---|---|---|---|---|---|
| | | r | Interpretation | p-value | Interpretation |
| Pupil – related factors | Literacy level | .763 | Strong Positive Correlation | .000 | Highly Significant |
| Environmental Factors | | .092 | Very Weak or Negligible Correlation | .233 | Not Significant |
| Teacher Factors | | .502 | Moderate Positive Correlation | .000 | Highly Significant |

This section answered the fifth question of this study. To examine the relationship between variables, Pearson product-moment correlation coefficient, or Pearson's r, was employed as the statistical test of correlation to obtain reliable and valid results. Table 7 presented the variables that were correlated with one another, along with their corresponding coefficients, p-values, and respective interpretations. The results from this analysis provided insights into the strength and direction of the relationships, helping to identify which variables were significantly associated with one another. These findings contribute to understanding how different factors interact and potentially influence the study's outcomes.

Table 8. Relationship between selected factors and numeracy performance of multi-grade pupils

| Variable 1 | Variable 2 | Correlation Coefficient | | | |
|---|---|---|---|---|---|
| | | r | Interpretation | p-value | Interpretation |
| Pupil – related factors | Numeracy level | .733 | Strong Positive Correlation | .000 | Highly Significant |
| Environmental Factors | | .063 | Very Weak or Negligible Correlation | .645 | Not Significant |
| Teacher Factors | | .554 | Moderate Positive Correlation | .000 | Highly Significant |

Table 8 shows the variables correlated with one another together with their corresponding coefficient, p-value, and their respective interpretations.

The relationship between factors influencing performance and the literacy and numeracy of multi-grade learners is shown in Tables 7 and 8. For pupil-related factors, the computed r values were .763 for literacy and .733 for numeracy, both indicating a moderate positive correlation with a p-value of .000, which is highly significant. Thus, the null hypothesis was rejected, meaning pupil-related factors significantly influence literacy and numeracy performance. Pupils with high determination and interest have better performance.

For teacher factors, the computed r values were .502 for literacy and .554 for numeracy, both indicating a moderate positive correlation with a p-value of .000, also highly significant. The null hypothesis was rejected, suggesting that improved teacher factors lead to better literacy and numeracy outcomes.

However, for environmental factors, the computed r values were .092 for literacy and .063 for numeracy, indicating very weak correlations. With p-values of .233 for literacy and .645 for numeracy, these results were not significant. Thus, the null hypothesis was accepted, indicating that environmental factors do not significantly influence literacy and numeracy performance among multi-grade pupils.

## 5. Research Future Opportunities

- Effect of Demographics on Learning: Future research could look into how different factors like gender, age, and parents' education affect the learning progress of students in multi-grade classrooms. This could help identify ways to support students based on their individual backgrounds.

- Impact of Family Income and Parental Education: Further studies could examine how family income and parents' education level influence the learning outcomes of multi-grade students. Understanding these factors could lead to better support for students facing challenges related to their family background.

- Teacher Training and Student Performance: Future studies could explore how teacher training and teaching methods affect student performance in multi-grade classrooms. Research could identify effective strategies and training programs that help teachers improve their students' learning results.

- Learning Environment and Student Success: Research could focus on how the physical classroom, home study conditions, and access to learning resources impact students' academic achievements. Investigating how these factors influence motivation and success can provide important insights for improving learning conditions.

- Long-Term Academic Development: Future research could follow students over several years to track how early life factors and learning support affect their progress in school. This could help understand the long-term benefits of early educational interventions.

- Comparing Multi-Grade and Single-Grade Classrooms: Further studies could compare the learning outcomes, teaching methods, and student engagement in multi-grade and single-grade classrooms. This could help identify best practices that can be used in both types of settings to enhance student learning.

## 6. Conclusion

This study drew positive insights from its findings, emphasizing key demographic patterns among the 171 respondents. The demographic profile showed a predominance of male students (69%) and a majority aged up to 10 years old (63%), with no respondents in the 8–9-year age range. This distribution suggests that the sample is skewed towards younger, male students, which may influence the generalizability of the findings.

The respondents' parents' educational attainment revealed a significant portion with only elementary or high school education. This, coupled with the financial status of the families—54% falling within lower-income brackets—highlights potential socio-economic challenges that could affect pupils' educational performance. These findings point to the need for interventions addressing the impact of limited resources and educational backgrounds on students' learning outcomes.

The study found a significant positive correlation between literacy and numeracy performance and both pupil-related and teacher-related factors (p = .000), highlighting their critical role in educational outcomes. In contrast, environmental factors showed weak or negligible correlations (p = .233 and .645), indicating minimal impact in this context. The findings emphasize enhancing support for pupils, particularly those from low-income backgrounds, and improving pupil- and teacher-related factors to boost performance. Future research should explore additional variables and strategies to address students' socio-economic challenges.

Acknowledgment: We would like to express our sincere gratitude to the respondents who served as the primary data source for this study. Their cooperation and willingness to participate were essential in gathering the necessary information. We also extend our thanks to the School Division Superintendent for granting permission to conduct the research, and to the principal of the school for facilitating the study's implementation. Their support was instrumental in ensuring the successful collection of data.

Data Availability Statement: Data that underpin the findings of this study can be obtained from the corresponding author upon request.

Funding Statement: This research did not receive any specific funding.

Conflicts of Interest Statement: The authors state that there are no conflicts of interest associated with this study.

Ethics and Consent Statement: The study adhered to ethical guidelines, ensuring participant confidentiality and anonymity.

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