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LEVEL OF LEARNERS' PROFICIENCY IN NUMERACY (ENHANCED REGIONAL UNIFIED NUMERACY TEST (ERUNT): BASIS FOR SCHOOL-BASED POLICIES

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INTRODUCTION

The performance of elementary pupils in mathematics exams is a topic of growing interest because pupils normally find math difficult. This research paper aims to investigate the performance of elementary pupils in mathematics exams and its implications for school-based policies. By examining the Learners' Proficiency Level in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) Mid-test (SY 2023-2024), this research seeks to provide valuable insights for the development of effective school-based policies to support elementary pupils' learning and achievement in mathematics.

The main objective of the numeracy assessment is to determine the numeracy level and to profile the learners of the public schools from across grade levels for implementation of immediate and appropriate intervention program/s (RM #827 series of 2022).

Assessment in mathematics and numeracy is more than forming judgements about a learner's ability. It monitors the learner's understanding of mathematical language, concepts, and skills and what they need to do to succeed. This requires an understanding of how learning develops, what skills and knowledge learners need to progress, and the common misunderstandings that can delay learning. Scaffolding students' learning in mathematics is the primary task of teachers. Teachers need accurate information about what each student already knows and with support, what might be within the student's grasp (State Government of Victoria, Australia © 2019). The results of the structural equation models conducted by Bonifacci et al., 2023 revealed that both children's performance in numeracy tasks and the teachers' evaluation of their math skills were directly predicted by their parents' educational levels. In contrast, the parents' math attitudes were indirect predictors via the mediation of home numeracy. These results contribute to understanding the relationships between the investigated environmental variables and the children's early math skills. According to Chang (2023), findings from the conditional direct and indirect effects of early numeracy skills on G4 math achievement suggest that children who had more proficient early literacy skills utilize strategies beyond just early numeracy skills to solve G4 math problems and that children's strategies to solve math problems may be enhanced by the proficiency of their literacy skills.

The impact of mathematical games was generally positive across the broad range of outcomes considered, suggesting that mathematical games are potentially effective for both developing mathematical proficiencies, as well as improving dispositions towards mathematics (Russo et al., 2024). The results in the study conducted by Lerkkanen and his team in 2023 showed, on average, lower reading skills in the COVID sample than in the pre-COVID sample but there were no differences in math skills. Although the COVID sample had lower levels in reading, their developmental trajectories in reading and math skills were not different from the pre-COVID sample before the pandemic in Grades 1 and 2. The Coronavirus Disease (COVID-19) pandemic at present continues to be a significant issue, threatening education in most parts of the world, especially the Philippines, one of the less developed countries economically (Alipio, 2020). Di Peitro et al., 2020 stated that most educational institutions at any level stopped physical instruction and shifted to blended learning to contain the spread of COVID-19. Adopting distance learning has been one of the keys to ensuring the continuity of education following the physical closure of schools. On average, pupils are likely to experience a learning loss, and technology plays a vital role in this learning environment. The shift from a classroom environment to a distance learning environment raises worries for pupils since they are to learn most concepts independently at home (Bringula et al., 2021). Lo and Hew found that pupils in flipped classrooms displayed higher Mathematical performance and cognitive achievement. Moreover, Mamolo stated that there was a decrease in pupils' motivation and self-

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efficacy when he incorporated learning Mathematics in a synchronous learning environment.

Some research has focused on academic achievement indicating that: students of parents from low socio-economic background do not achieve as well as students of parents from higher socioeconomic background (Roska, & Potter, 2011; Smith et al., 2018); students from remote locations do not achieve as well as their metropolitan peers (Holmes et al., 2018); and students who have a high level of absenteeism do not achieve as well as students who have low levels of absenteeism (Kim & Gende-Genitty, 2020). The challenge for school leaders is to understand how the findings from research translate to the students in their school. One way is to use the enormous amount of student data available to the school. In Australian schools, these data are readily accessible to school staff and can be used to inform decisions that can improve education provision in areas identified to be the greatest need for the students in that school (Glennon, et al., 2013, Gonski, et al., 2018).

Effective teaching strategies for improving proficiency level in numeracy include practicing mental calculation strategies, implementing "*Mata sa Rang"* (Gráinne, Cull., Joe, Travers, 2018) approaches in co-teaching, using innovative and creative instructional materials, and addressing the literacy demands of test items (Masooma, Ali, Al, Mutawah, 2016). These strategies have been found to have a significant impact on students' numeracy proficiency, their perspective towards mental strategies, and their ability to perform different mental strategies in their daily life (Paul, D., White., Judy, Anderson, 2011). The use of instructional materials, such as the Multi-vide Ruler kit, can enhance students' ability in solving multiplication and division questions and increase their interest in solving numeracy problems. Additionally, addressing the literacy demands of test items and implementing mental computation and estimation approaches can support student learning and improve understanding in numeracy. Overall, these strategies provide practical interventions to enhance teaching and learning in numeracy, particularly for students with learning difficulties or dyscalculia.

This research paper would be greatly beneficial to the following: Pupils. The results of this study may be beneficial to Miagao Central Elementary School pupils because this study may provide them with reliable and valid baseline data.

Teachers. By determining the level of Learners' Proficiency in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT), teachers may redesign, redirect, and reintegrate pedagogies of teaching and learning that will ultimately redound to the improved learning of pupils in Math.

School Heads. The result of this study may be useful to Miagao Central Elementary School administration in crafting a sound, relevant and contextualized school-based policies that will greatly improve the pupils' proficiency in Numeracy and in Mathematics in general.

Conceptual Framework

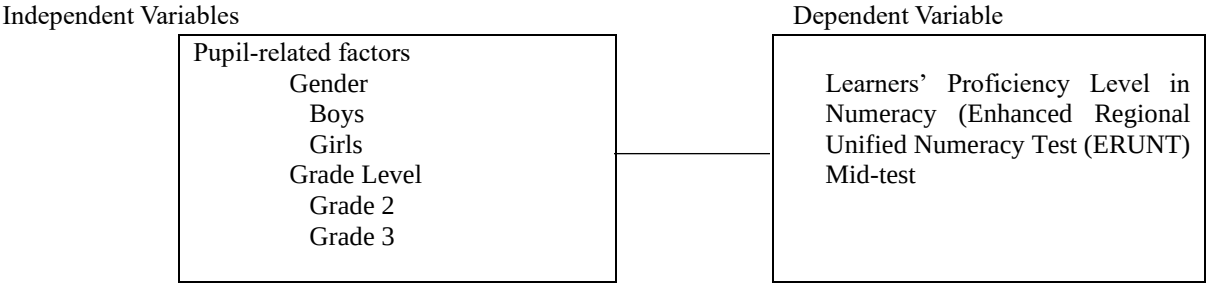


Fig 1. **A paradigm showing the independent and dependent variables.**

STATEMENT OF THE PROBLEM

The study determined the proficiency of elementary pupils in the Numeracy Test at Miagao Central Elementary School for SY 2023-2024. Specifically, this study sought answers to the following questions:

1. What is the level of Learners' Proficiency in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) at Miagao Central Elementary School for SY 2023-2024., when taken as a whole?
2. What is the level of Learners' Proficiency in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) at Miagao Central Elementary School for SY 2023-2024., when classified according to gender and grade level?
3. Is there a significant difference in the level of Learners' Proficiency in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) at Miagao Central Elementary School for SY 2023-2024., when classified according to gender and grade level?

Hypothesis. There is no significant difference in the level of Learners' Proficiency in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) at Miagao Central Elementary School for SY 2023-2024., when classified according to gender and grade level.

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MATERIALS AND METHODS

The data obtained from the study were analyzed, interpreted, and presented. The presentation was in the order of the problems of the study. Tables and other figures were used to provide a straightforward data analysis.

Table 1. ***Distribution of Respondents***

Category	f	%
Entire Group	414	100
Gender		
Boys	217	52
Girls	197	48
Grade Level		
Grade 2	193	47
Grade 3	221	53

Table 1 shows that 217 or 52% of the respondents are comprised of boys while 197 or 48% are girls. Forty-seven percent or 193 of them were grade 2 pupils while the remaining 221 or 53% were grade 3 pupils.

Table 2. Learners' Proficiency Level in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) Mid-test

Category	*Mean*	*Description*	*SD*
Entire Group	4.76	Very High	0.66
Gender			
Boys	4.76	Very High	0.67
Girls	4.75	Very High	0.66
Grade Level			
Grade 2	4.72	Very High	0.77
Grade 3	4.79	Very High	0.55

Legend: Mean Score
4.01 – 5.00 Very High Proficiency
3.01 – 4.00 High Proficiency
2.01 – 3.00 Low Proficiency
1.00 – 2.00 Very Low Proficiency

Table 2 shows the learners' proficiency level in numeracy when taken as an entire group is "very high" (M=4.76, SD=0.66). When categorized as to gender, the boys (M=4.76, SD=0.67), as well as the girls (M=4.75, SD=0.66), have "very high proficiency." The grade 2 (M=4.72, SD=0.77) as well as the grade 3 (M=4.79, SD=0.55) had "very high proficiency."

Table 3. Matrix showing the Cluster of Students in Various Proficiency Levels

	Total		Gender				Grade Level			
			Boys		Girls		Grade 2		Grade 3	
Level of Proficiency	f	%	f	%	f	%	f	%	f	%
Highly Proficient	350	84.5	184	84.8	166	84.3	164	85.0	186	84.2
Proficient	39	9.4	21	9.7	18	9.1	12	6.2	27	12.2
Nearly Proficient	16	3.9	7	3.2	9	4.6	10	5.2	6	2.7
Low Proficient	6	1.4	3	1.4	3	1.5	5	2.6	1	0.5
Not Proficient	3	0.7	2	0.9	1	0.5	2	1.0	1	0.5

Table 3 shows that three hundred fifty out of four hundred fourteen pupils (350/414) or 84.5% are highly proficient in numeracy. Of this total, 164 are grade 2 pupils and 186 are grade 3 pupils. One hundred eighty-four are boys and 166 are girls. Though there are many highly proficient pupils, there are 6 pupils with low proficiency and 3 who are not proficient.

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Inferential Statistics

Table 4. *t-test results on the differences in the Learners' Proficiency Level in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) Mid-test when categorized according to Gender and Grade Level*

Categories	Levene's Test for Equality of Variances			t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Gender	Equal variances assumed	0.063	0.801	0.140	412	0.889
Grade Level	Equal variances not assumed	7.094	0.008	-1.155	342.252	0.249

Table 4 reveals that there is no significant difference in the Learners' Proficiency Level in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) Mid-test when categorized according to gender and grade level.

RESULTS AND DISCUSSIONS

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

The level of Learners' Proficiency in Numeracy (Enhanced Regional Unified Numeracy Test (ERUNT) at Miagao Central Elementary School for SY 2023-2024., when taken is an entire group is very high.

When categorized as to gender, the boys as well as the girls have very high proficiency. Grade 2 as well as grade 3 had very high proficiency.

CONCLUSIONS

Based on the findings, the following conclusions are presented:
Gender Distribution: Fifty-two percent of the respondents are boys, while 48% are girls.
Both boys and girls show "very high" proficiency in numeracy, with similar mean scores and standard deviations.

Grade Level Distribution: Forty-seven percent of the pupils are in grades 2, and 53% are in grade 3. Grade 2 pupils have a mean proficiency level of 4.72 with a standard deviation of 0.77, while grade 3 pupils have a mean proficiency level of 4.79 with a standard deviation of 0.55. 84.5% of all pupils are highly proficient in numeracy, with 164 highly proficient grade 2 pupils and 186 highly proficient grade 3 pupils.

Overall Proficiency: When taken as a whole group, the learners exhibit a "very high" proficiency level in numeracy, with a mean of 4.76 and a standard deviation of 0.66. The majority of pupils (84.5%) demonstrate high proficiency, with only a small number showing low proficiency or no proficiency.

Comparison by Gender and Grade Level: Table 4 indicates that there is no significant difference in learners' proficiency levels in numeracy when categorized by gender and grade level. Both boys and girls, as well as grade 2 and grade 3 pupils, exhibit similar levels of proficiency in numeracy based on the Enhanced Regional Unified Numeracy Test (ERUNT) Mid-test.

In conclusion, the data suggests that most pupils, regardless of gender or grade level, exhibit a very high proficiency in numeracy. The distribution of proficiency levels is balanced among boys and girls, as well as between grade 2 and grade 3 pupils. The findings from the tables indicate a strong overall performance in numeracy among the surveyed pupils, with a high percentage demonstrating a high level of proficiency.

RECOMMENDATIONS

The researchers would like to propose the following:
Targeted Support for Low Proficiency Pupils: Identify the small number of pupils showing low proficiency or no proficiency and provide targeted support to help them improve their numeracy skills. Implement interventions such as additional tutoring, personalized learning plans, or remedial classes to address the specific needs of these pupils. The No Filipino Child Left Behind Act of 2008 aims to free children from ignorance and lack of education that can lead to a poor quality of life. It also directs local government units, especially at the barangay level, to be directly involved in controlling the education of children under their jurisdiction.

Encourage Gender-Neutral Teaching Approaches: While both boys and girls show similar levels of proficiency in numeracy, ensure teaching approaches are gender-neutral to maintain this balance. Provide equal opportunities for all students to excel in numeracy by avoiding gender biases in teaching methods and classroom interactions.
Promote Peer Learning and Collaboration: Encourage peer learning and collaboration among students to enhance their numeracy skills. Group activities, peer tutoring, or collaborative projects can help students learn from each other and strengthen their understanding of numeracy concepts.

Continuous Monitoring and Evaluation: Continuously monitor and evaluate students' progress in numeracy to identify any changes in proficiency levels over time.
Use formative assessments, regular quizzes, or progress checks to track individual student growth and adjust teaching strategies accordingly.

Professional Development for Educators: Provide professional development opportunities for teachers to enhance their skills in delivering effective numeracy instruction.
Training on differentiated instruction, data-driven decision-making, and inclusive teaching practices can further support students' numeracy development.

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Celebrate Achievements and Foster a Positive Learning Environment: Recognize and celebrate the achievements of highly proficient students to motivate others and create a positive learning environment. Encourage a growth mindset among all students, emphasizing effort, perseverance, and improvement in numeracy skills.

By implementing these recommendations, schools can further enhance the numeracy skills of all students, maintain a balanced distribution of proficiency levels across genders and grade levels, and continue to foster a culture of excellence in numeracy education.

LITERATURE CITED

1. *Alipio, M.(2020). Education during COVID-19 era: Are learners in a less-economically developed country ready for e-learning? ZBW – Leibniz Information Centre for Economics, Kiel, Hamburg*
2. *Alvin, Bituaran, lacaba., Jason, D., Magalona., Teresita, Villa, Golosino, Lacaba. (2018). "Peer Teaching Strategy To Increase Mathematics Proficiency Level" (An Action Research) (Eastern Samar State University). International Journal of scientific research and management, doi: 10.18535/IJSRM/V6I8.M02*
3. *Bonifacci, P., Compiani, D., Ravaldini, V., Peri, B., Affranti, A., & Tobia, V. (2023). A multi-informant approach testing an expanded home numeracy mode. Education Sciences, 13(3), 278. doi:https://doi.org/10.3390/educsci13030278*
4. *Bringula, R., Reguyal, J.J., Tan, D. and Ulfa, S. (2021). Mathematics self-concept and challenges of learners in an online learning environment during COVID-19 pandemic. Smart Learn. Environ.*
5. *Céline, Guilmois., Maria, Popa-Roch., Céline, Clément., Steve, Bissonnette., Bertrand, Troadec. (2019). Effective numeracy educational interventions for students from disadvantaged social background: a comparison of two teaching methods. Educational Research and Evaluation, doi: 10.1080/13803611.2020.1830119*
6. *Chang, I. (2023). Early numeracy and literacy skills and their influences on fourth-grade mathematics achievement: A moderated mediation model. Large-Scale Assessments in Education, 11(1), 18. doi:https://doi.org/10.1186/s40536-023-00168-6*
7. *Di Pietro, D., Biagi, F., Costa P., Karpiński Z., and Mazza, J. (2020). The likely impact ofCOVID-19 on education: Reflections based on the existing literature and international datasets, EUR 30275 EN, Publications Office of the European=Union, Luxembourg, 2020, ISBN 978-92-76-19937-3, JRC121071.*
8. *Glennon, C, Hinton, C, Callaham, T & Fisher, K.W. (2013). School-Based Research. International Mind, Train, and Education Society, 7(1), 30-34.*
9. *Gonski, D., Arcus, T., Boston, K., Gould, V., Johnson, W., O'Brien, L. & Roberts, M. (2018). Through growth to achievement: The report of the review to achieve educational excellence in Mustráltán schools. Canberra: Commonwealth of Australia.*
10. *Gráinne, Cull., Joe, Travers. (2018). Mata sa Rang Co-teaching: Inclusive Support for Numeracy.*
11. *Holmes, K., Gore, J., Smith, M. & Lloyd, A. (2018). An integrated analysis of school students' aspirations for STEM careers: Which students and school factors are most predictive. International journal of Science and Mathematics Education, 16, 655-675. https://doi.org/10.1007/sl0763-016-9793-z*
12. *Janeen, Lamb., Vince, Geiger. (2010). A Teacher Pair Approach to Adopting Effective Numeracy Teaching Practice.. Mathematics Education Research Group of Australasia,*
13. *Kim, J. & Gentle-Genitty, C. (2020). Transformative school community collaboration as a positive school climate to prevent school absenteeism, journal of Community Psychology, 48(8), 2678-2691. https://doi.org/10.1002/jcop.22444*
14. *Lerkkanen, M., Pakarinen, E., Salminen, J., & Torppa, M. (2023). Reading and math skills development among finnish primary school children before and after COVID-19 school closure. Reading and Writing, 36(2), 263-288. doi:https://doi.org/10.1007/s11145-022-10358-3*
15. *Lo, C. & Hew, K. (2020). A comparison of flipped learning with gamification, traditional learning, and online independent study: the effects on pupils' mathematics achievement and cognitive engagement, Interactive Learning Environments.*
16. *Mamolo, L. (2022). Online Learning and Pupils' Mathematics Motivation, SelfEfficacy, and Anxiety in the New Normal. Hindawi Education Research International Volume 2022, Article ID 9439634.*
17. *Masooma, Ali, Al, Mutawah. (2016). The Effect of Practicing Mental Calculation Strategies on Teacher Candidates' Numeracy Proficiency. International Journal of Education and Literacy Studies,*
18. *Merrilyn, Goos., Shelley, Dole., Vince, Geiger. (2011). Improving numeracy education in rural schools: a professional development approach. Mathematics Education Research Journal, doi: 10.1007/S13394-011-0008-1*
19. *Roska, J. and Potter, D. (2011). Parenting and academic achievement: Intergenerational transmission of educational disadvantage. Sociology of Education, 84(d), 299-321. https://doi.org/10.1177/0038040711417013*
20. *Russo, J., Kalogeropoulos, P., Bragg, L. A., & Heyeres, M. (2024). Non-digital games that promote mathematical learning in primary years students: A systematic review. Education Sciences, 14(2), 200. doi:https://doi.org/10.3390/educsci14020200*
21. *Smith, C., Parr, N. & Muhidin, S. (2018). Mapping schools' NAPLAN results: A spatial inequality of school outcomes in Australia. Geographical research, 37(2), 133150. https://doi.org/10.llll/1745-5871.12317*
22. *State Government of Victoria, Australia © 2019. Retrieved on March 14, 2024 from https://www.education.vic.gov.au/school/teachers/teachingresources/discipline/maths/Pages/maths-and-numeracy-assessment.aspx*
23. *Stephen, Reder., Britta, Gauly., Clemens, M., Lechner. (2020). Practice makes perfect: Practice engagement theory and the development of adult literacy and numeracy proficiency. International Review of Education, doi: 10.1007/S11159-020-09830-5*