Numeracy Skills and Academic Performance of Elementary Learners

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ABSTRACT

This study was conducted to determine the level of numeracy skills and academic performance in Mathematics of Grade VI learner's regular class of Barotac Nuevo Central Elementary School, School Year 2023-2024. The study included a sample of sixty-nine (69) respondents using random sampling technique by using fishbowl method. The researchers utilized adapted standardized test questionnaire consisting of 60-item test to gather the data. Statistical tools such as mean, standard deviation, t-test, ANOVA and pearson -r were employed at a significance level 0.05. The result revealed that there is a statistically significant relationship between the level of numeracy skills and academic performance in Mathematics of Grade VI learners' regular class, p = .003. Furthermore, the level of numeracy skills and academic performance of Grade VI learners' regular class is positively correlated, r (69) = .357. The results simply implied that the "beginning" level of numeracy skills of Grade VI learners is significantly correlated with the "good" academic performance of the respondents. The researchers conclude that a strong foundation in numeracy skills is crucial for academic success and mathematical development. Factors including effective teaching practices, parental involvement, a positive classroom environment, and quality educational resources contribute to this success. Both male and female learners have similar abilities and achievements in Mathematics, and the socio-economic status does not have a significant impact on learner's abilities in Mathematics. However, there is a discrepancy between the learner's numeracy skills and academic performance. Even with a beginning level of numeracy skills, the learners are able to achieve a good academic performance in Mathematics. The researchers recommend to encourage learners to practice their numeracy skills regularly through activities such as solving basic Math problems, playing Math games, and build a positive attitude towards Math by celebrating small achievements and positive feedback to enhance or improve their numeracy abilities.

Keywords: Numeracy Skills, Academic Performance, Mathematics, Elementary School

INTRODUCTION

Background of the Study

Numeracy is the knowledge, skills, practices, and attitudes that learners need to do Math in a variety of situations. It involves perceiving and comprehending the world's mathematical functions Victorian Curriculum and Assessment Authority, (2017). Numerical agreement, familiarity, and critical thinking get extremely advanced and developed as learners grow. These abilities enable students to use arithmetic to make informed decisions and solve problems effectively Kurmaniak, (2021). The importance of early mathematical instruction on young children's ability development on the impact of prior achievement on future academic success on the need to focus on numeracy. However, some students still have a low level of numeracy skills. With that, this study aimed to determine the factors that affect the numeracy skills of students Ofsted, (2018).

Academic performance has a multitude of perspectives, which are responsible for the varied constitution of its very definition. As mentioned in the study, academic performance is to be understood as the result of a combination of psychological, social, and economic factors, which further lead to the proper multifaceted growth of students Díaz-Morales, J. F. & Escribano, C., (2015).

Studying numeracy skills and academic performance of elementary learners are essential for building a strong foundation for future learning, promoting independent learning, developing critical thinking and problem-solving abilities, improving retention and long-term memory, fostering time management skills, cultivating self- discipline and perseverance, boosting confidence and more on. The importance of numeracy has been widely acknowledged as the foundation for lifelong learning, which must be harnessed from an early age to support young people's success in the wider curriculum and other activities beyond classroom Ofsted, (2018).

The reasons that the researchers wanted to conduct this study is to determine the level of numeracy skills and academic performance in Mathematics and to give recommendations that would be beneficial to the teachers, parents, principal, school, future researchers and especially to the learners.

The researchers are eager to study this because they see that most of the learners nowadays have poor academic performance in numeracy skills and lack of foundational understanding and proficiency in basic Math topics; they want to find out what is the level of numeracy skills and academic performance in Mathematics of Grade VI learners' regular class of Barotac Nuevo Central Elementary School.

Statement of the Problem

This study determined the level of Numeracy Skills and Academic Performance in Mathematics of Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School at Lagubang, Barotac Nuevo, Iloilo S.Y. 2023-2024.

Specifically, it sought to answer to the following questions:

1. What is the level of numeracy skills in Mathematics of Grade VI learners regular class when taken as a whole and when grouped according to sex and socio-economic status?
2. What is the level of academic performance in Mathematics of Grade VI learner's regular class when taken as a whole and when grouped according to sex and socio-economic status?
3. Is there a significant difference in the level of numeracy skills and academic performance when grouped according to sex and socio-economic status?
4. Is there a significant relationship between numeracy skills and academic performance in Mathematics of Grade VI learner's regular class?

Hypotheses

1. There is no significant difference in the level of numeracy skills and academic performance in Mathematics of Grade VI learner's regular class when grouped according to sex and soocio-economic status.
2. There is no significant relationship between the level of numeracy skills and academic performance in Mathematics of Grade VI learner's regular class.

THEORETICAL FRAMEWORK

This study was anchored to Piaget and Kolb. Piaget's theory is called Developmental Constructivism (Early 1950s) and maintains that children acquire number concepts and operations by construction from the inside and not by internalization. Piaget (1968) pointed out that every normal student is capable of good mathematical reasoning if attention (and care) is directed to activities of his interest, and if by this method the emotional inhibitions that too often give him a feeling of inferiority in lessons in mathematics are removed. According to the theory, constructivism is best suited to the learning and teaching of Math's over behaviorism. The best way to teach children about mathematical concepts is through hands-on, practical, and play-based experiences, the children are more likely to engage meaningfully and successfully with them.

Another theory is Experiential Learning (1984) as advocated by David Kolb is learning that occurs by making sense of direct everyday experiences. Experiential Learning theory defines learning as "the process whereby knowledge is created through the transformation of experience.

Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984, p.41). To Kolb, effective learning is seen as the learner goes through the cycle of experiential learning theory. Students can enter the cycle in any way and at any point. This theory emphasizes the importance of experience and its role in the learning process (Kolb, 1984). Moreover, it uses experience to describe its vital difference from cognitive learning theory, which focuses on cognition and behavioural learning theory. These theories "ignore[s] the possible role of subjective experience in the learning process" Cherry, (2019), while, as Kolb (1984) attests, "learning is the process whereby knowledge is created through the transformation of experience".

Conceptual Framework

This diagram presents the Numeracy Skills and Academic Performance in Mathematics of Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School in terms of sex and socio-economic status.

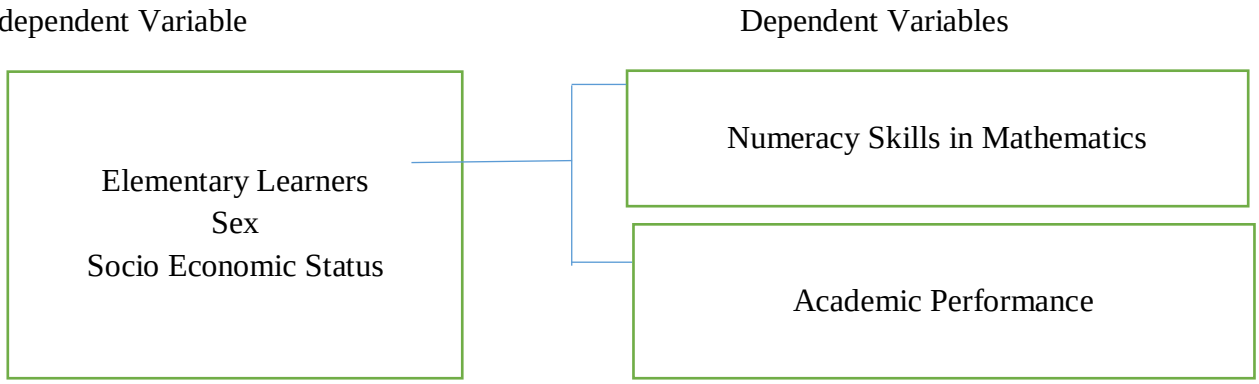

Figure 1. The Conceptual Model

Significance of the Study

The results of the study would be of beneficial to the following:

Learners. The results of this study will help the learners of Barotac Nuevo Central Elementary School since they will have a better grasp of how their present numeracy skills are affecting their academic performance. It also helps them to have a more precise understanding of how particular activities connected to their academic affect their numeracy skills.

Teachers. The result of this study will serve as a basis or guide for the teachers of Barotac Nuevo Central Elementary School, for them to create and innovate new learning methods to improve their modes of delivering their lessons to have a better teaching and learning process. 6

Parents. The result of this study will help the parents to support their child's mathematical learning and foster a positive attitude towards Math.

Principal. The result of this study will be beneficial to the principal to provide valuable insights and engagement strategies to enhance Math education and learners' success in the school.

Barotac Nuevo Central Elementary School. The result of this study will be beneficial to the school because it will provide an effective plan to develop the teaching-learning process further and know how to implement learning effectively.

Future Researchers. The result of this study may able to use in subsequent research that is similar to it. It may also add to or support specific claims made in earlier studies on the reasons of poor academic performance in numeracy skills.

Scope and Limitation of the Study

This correlational study design was confined to the Numeracy Skills and Academic Performance in Mathematics of Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School, Lagubang, Barotac Nuevo, Iloilo. The respondents of this study were the Grade VI learner's regular class of Barotac Nuevo Central Elementary School. They were identified as the respondents of this study using the Slovin's formula and random sampling technique by using the "fishbowl" method. 7

The instrument used was the adapted standardized test questionnaire by Mrs. Cherry D. Paguapo, Master Teacher I from San Jose Elementary School (2017-2018). It contains 60 items. Part I was the respondent's profile information which composed of sex and socio-economic status. Part II was composed of standardized test questionnaire to find out the level of numeracy skills in Mathematics of Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School.

Definition of Terms

To provide readers and users of this study with an overview and a better understanding of the terms used, the terms were defined conceptually and operationally.

Academic Performance. The knowledge gained which is assessed by marks by a teacher and/or educational goals set by students and teachers to be achieved over a specific period of time Narad & Abdullah, (2016).

In this study, it referred to the general weighted average of Grade VI learner's regular class in their Mathematics subject.

Learners. It is used to refer to school children who are in the primary and elementary grades as well as those in the secondary schools (Emelda, M., 2016).

In this study, it referred to the Grade VI learner's regular class who were the respondents of the study.

Mathematics. It is a subject taught in elementary and secondary education that provides students with fundamental knowledge and skills to organize their lives Ariyanti, G. & Santoso, F. G. I., (2020).

In this study, it referred to the subject taken by the respondents using mathematical operations and problem-solving skills.

Numeracy Skills. It is the knowledge, skills, practices, and attitudes that learners need to do Math in a variety of situations. It involves perceiving and comprehending the world's mathematical functions Victorian Curriculum and Assessment Authority, (2017).

In this study, it referred to the ability of the elementary learners to deal with the four basic fundamental Mathematics operations.

REVIEW OF RELATED LITERATURE

Numeracy Skills of Learners

Numeracy skills are the foundation of all future Mathematics studies, asserts by Eason (2018). Early Mathematics' instruction is important since it is the period of development when pupils are most receptive to learning. Before Elementary years, Mathematics instruction and intervention were required. These pupils, particularly the at- risk ones, require the chance to lay a solid foundation early on. Early childhood is the greatest age to start teaching early Mathematics and numeracy abilities since young learners' brains are naturally open to logic and Mathematical skills.

According to the findings of Pitogo, S. & Oco, R. (2023), entitled "Pupils' Numeracy Skills and Mathematics Performance", states understanding numeracy abilities is essential for improving one's success in Mathematics since they are a component of the subject's fundamentals. Two hundred fifty-one (251) Grade I students of

Iponan Elementary School in the West II District, Division of Cagayan de Oro City, participated in this study during the 2022–2023 school year. Using data from the pre-test and mid-year assessment, it aimed to ascertain students' numeracy abilities. It also sought to ascertain students' performance in Mathematics during the first and second quarters, as well as any noteworthy correlations between the students' Math abilities and their performance in Math during those periods. The main research tool used in this study to assess the students' numeracy abilities was the Annual Status of Education Report (ASER TOOL) materials. The students' numerical proficiency was calculated. The significant difference between the numeracy skills and the mathematical performance of the Grade I students in mathematical during the First and Second Quarters was ascertained using statistical methods such as frequency, percentage, mean, standard deviation, and t-test. The findings demonstrated that the students' numeracy abilities were advanced. The students demonstrated exceptional proficiency in Mathematics. There is a notable variation in the students' performance in Mathematics and their numeracy abilities. It is advised that parents and teachers keep offering their advice and support to the pupils.

In the study of Cheung, S. K., Yang, X., et al. (2017), entitled "Family and Individual Variables Associated with Young Filipino Children's Numeracy Interest and Competence", states that early numeracy outcomes in children lay the groundwork for later school years Mathematics learning. This study looked at the relationships between various family and individual factors and the interest and proficiency in numeracy of underprivileged preschool children in the Philippines. We examined the literacy and numeracy abilities of 673 kids from low- to middle-class neighborhoods. Additionally, a questionnaire about their demographics, attitudes toward numeracy learning, techniques used at home, and children's interest in numeracy was given to their parents. Analyses using structural equation modeling demonstrated a relationship between children's interest in numeracy and the attitudes and actions of their parents. On the other hand, the numeracy competency of children was correlated with their literacy levels, age, gender, and socioeconomic background. These results imply that the early numeracy development of disadvantaged children may be influenced by family and individual factors in distinct ways. Furthermore, in order to support their children's numeracy competency, parents might be urged to utilize at-home numeracy experiences effectively.

In the study of Chavez, R. A. (2019), entitled "Improving the Numeracy Skills of Grade Five Pupils through Differentiated Instruction in Duhat Elementary School S. Y. 2017-2018", states that young people today are seen as vibrant, individual people who have distinct distinctions in their cultural background, cognitive ability, and physical attributes. The degree to which students of the same age require guidance and assistance during their academic pursuits varies. It is critical that educators are aware of their unique demands and incorporate them into their instruction. However, a lot of educators complain about having high standards. They recognize the pressure to pass all of the courses with a perfect score. The diversity of learners within this generation—the so-called millennials—is particularly apparent due to the quick changes and numerous advancements in social living and technology. Since young people, including the pupils, learn in a variety of ways, it is important to give them education that takes into account their unique skills and capacities. The Mathematics quarterly result made it very clear that, due to student diversity, teaching methods should not be limited to a single approach. Instead, students should be engaged in a variety of learning and teaching methods. Both the teaching and learning methods of Mathematics teachers and the numeracy abilities of students in grade five will benefit greatly from this action research.

A study conducted by Celemin, G. (2023), entitled "Enhancing Numeracy Skills of Grade III Students Through Authentic Performance Tasks", states that the ability to apply mathematical concepts to all aspects of life is known as numeracy. It includes tasks like counting, number recognition, adding and subtracting, sorting, observing, identifying, and creating patterns. By the time they graduate from primary school, this is one of the essential abilities that children should have acquired. Considering the significant value of mastering numeracy abilities, learners' low performance and achievement in this area were noted. The purpose of this study was to improve the Grade III students' numeracy abilities through real-world performance assignments. Included in the range of numeracy skills are problem solving and the four basic operations. Using purposive or non-randomized sampling, a quasi- experimental approach was employed. In this study, 33 Grade III learners of Rizal Elementary School were selected to participate in the tests. Pre-test and post-test crafted by the teacher were the main instrument in the study. The findings showed that the learners' mean percentage score (MPS) in

four basic operations on the pre-test was 38.20%, indicating a non-numerate level. Regarding problem solving, the students received an MPS of 20.60%, which falls into the non-numerate category. With an interpretation of non- numerate level, its grand mean is 29.40%. Four basic operations had an MPS of 81.10% in the post-test, indicating an average numerate level. On the other hand, problem solving had an MPS of 76.30% with a grand mean of 78.70%, indicating an average numerate level. This suggested that there is a notable distinction in problem solving and the four basic procedures between the pre- and post-tests. Therefore, it can be said that using real-world performance tasks helped close the achievement gap in numeracy.

According to the study of Tanghal, J. S. & Tanghal, A. B. (2022), entitled "Numeracy Level of Elementary Students: Factors and Effects", states that stratified random sampling was employed in the study to choose the participants. Seven hundred eighty-five respondents in all—402 men and 383 women—participated in the survey across seven Grade VI divisions. The following statistical approaches were used by Strata to process the obtained data: mean, weighted mean, and Pearson product-moment correlation. According to the findings, 403 out of 785 (51.34%) of the student responders were not in the numerical group. The results of the survey showed a substantial correlation between the respondents' degree of numeracy and their sex, family size, and study habits. The study also showed a negative significant association between the Grade VI students' numeracy level and their use of gadgets/devices, including cell phones, cable TV, social media sites like Facebook and YouTube, and online gaming sites. The researcher recommends that teachers and parents should guide and teach the students for the responsible use of technology. Technology can be a great tool for students to use when completing projects, research papers, and assignments, but it can also be detrimental if students use it for socializing and pleasure. When it comes to kids' involvement in extracurricular activities, school authorities ought to offer a long-term program. Teach parents how to help, support, and encourage their children in their academic endeavors and the development of their numeracy abilities by offering seminars and training.

In the research study of Nalangan, J. V. (2019), entitled "Problems Affecting the Numeracy Skills among Grade Four Learners of Selected Schools in Malapatan 1 District", states that the ability to use mathematical ideas in all facets of life is known as numeracy. A child's poor numeracy abilities could have a negative impact on their performance in advanced Mathematics. Many kids find it challenging to connect their informal Math knowledge with formal Math instruction. It is important to ensure this association not only in the early primary grades but also in the concept development phases of higher-level Mathematics by using structured, real resources. Some learners need more time spent translating between different written formats and understanding distinct object or drawing representations. Therefore, it requires adequate remedial care over an extended period of time to promote a healthy transition to maturity. This study identified the problems influencing Grade IV students' numeracy proficiency in a subset of Malapatan 1 District schools. These problems could be classified as emotional, personal, home, or teacher-related.

According to the findings of Fernandez, A. D. & Benavides, N. G. (2023), entitled "Numeracy Skills Performance of Grade VI Pupils in Modular Distance Learning", states that with the use of modular distance learning (MDL) at Gimaloto Elementary School in the Sorsogon West District for the school year 2021–2022, this study sought to ascertain the numeracy skills performance of Grade VI students. The results of this study showed that while students' performance in basic Math and number interpretation is excellent, their problem-solving abilities are just adequate. The main obstacle for the students is learning numeracy through modular remote learning, particularly with problem solving. The action plan was put forth in an effort to raise students' performance in numeracy. It was suggested that the students be given extra drills and exercises to help them with their numeracy and problem-solving abilities. Additionally, teachers might possess techniques for helping students with this element. Teachers and school administrators should prioritize addressing the numeracy difficulties that students face. The learning activity sheets can be sent to the relevant authorities for additional assessment and evaluation prior to adoption and execution. If feasible, additional research involving other schools and the inclusion of characteristics not previously covered could be conducted in order to broaden the study's reach.

According to the study of Clerkin, A. & Gilligan, K. A. (2018), entitled "Pre-school Numeracy Play as a Predictor of Children's Attitudes Towards Mathemathics at Age 10", states that early childhood numeracy activities have been connected to children's eventual arithmetic performance. Few research, meanwhile, have

looked at the relationships between young children's play with numeracy and their views toward Mathematics later in life. The Trends in International Mathematics and Science Study (TIMSS) 2011 evaluation is the basis for this study, which offers a retrospective look at pre-school numeracy play as reported by parents of children aged 10 (N = 4560). It was discovered that the majority of kids had regularly participated in early numeracy activities. Lower socioeconomic background children, however, engaged in numeracy play less frequently, and girls were less likely to engage in spatial play (e.g., building blocks). After adjusting for other variables, children's level of pre-school numeracy play was found to be substantially correlated with increased confidence and, for those from higher socioeconomic backgrounds, a preference for Mathematics at age ten. The findings draw attention to gendered and socioeconomic disparities in young children's activities, which parents, educators, and policymakers should be aware of. Additionally, they make the case that numeracy can help promote favorable attitudes toward Mathematics, which is something to keep in mind while working to enhance interest in the STEM fields (science, technology, engineering, and math).

In the study of Girard, C., Bastelica, T., et al. (2021), entitled "The Relation Between Home Numeracy Practices and a Variety of Math Skills in Elementary School Children", states that an increasing amount of research indicates that children's mathematical development may be correlated with the frequency of numeracy encounters parents give at home. However, there is a complex relationship between children's numerical skills and their home numeracy practices that may vary on the kind and level of activity as well as the specific Math skills. Research has also shown that variables including children's IQ, parental Math prowess, and socioeconomic status (SES) that are not consistently taken into account in the research may be responsible for this relationship. Lastly, it is still unknown to what degree the home numeracy environment and Math skills persist when children enter primary school, since the majority of earlier research has concentrated on preschoolers. In the current study, 66 8-year-olds were assessed on a wide range of Math skills, including mental arithmetic, transcoding, symbolic number understanding, non-symbolic amount processing, and counting. A questionnaire concerning the parents' SES, academic expectations, attitudes, and at-home numeracy habits was also given to the parents. Lastly, in order to gauge the Math proficiency of their parents, we assessed their arithmetic fluency. Beyond variations in the child's IQ, parental arithmetic fluency, socioeconomic background, and time spent with the child, we discovered a positive correlation between the frequency of formal numeracy activities at or above grade level and two distinct mental arithmetic measures. The researcher found out that there was a correlation between parents' academic aspirations and the frequency of these advanced formal numeracy practices. Thus, the study demonstrates that, but only when those activities are structured and sufficiently difficult for kids, home numeracy experiences predict Math ability in primary school students.

According to the findings of Capuno, R. G., Revalde, H. O., et al. (2019), entitled "Facilitating Learning Mathematics Through the use of Instructional Media", states that media use for better teaching and learning complements traditional methods to take care of education. Between the knowledge of the understudies and the learning, effective guiding is created destinations related to Mathematics. Media use involves pupils and helps them with in addition to encouraging students to retain knowledge. This research evaluated how much teaching media usage and the academic achievement of third-grade students in Mathematics in a public Philippines' Cebu City Elementary School. This study employs the quantitative research design study, information was acquired using a range of metrics, such as the approval of consent from parents, the survey checklist completed by the respondent, and a letter. The study found that educators do not make the most of the school's audiovisual room and library. It was determined that the students' academic achievement is not determined by the way the teacher implemented the instructional media. The researchers recommend that the proposed enhancement plan be used and monitored.

Based on research findings from Magtolis, D. A., III (2023), entitled "Effectiveness of Project Renrich in Improving the Numeracy Skills of Grade V Learners", states that the study's objective was to determine how well Project Renrich performed in 2021–2022 in raising the numeracy proficiency of Cabadiangan Elementary School students in the fifth grade. A quasiexperimental design was utilized in the study to compare the respondents' pretest and posttest scores. Additionally, 67 Grade V students from two sections were chosen as participants for the study using the total enumeration technique. Seven months were dedicated to the study. Frequency and percentage were utilized to depict the data on the numeracy level of the fifth-grade students

classified as competent, developing, beginning, and non-numerate levels. The obtained data were evaluated using IBM SPSS. The degree of significance was established at 0.05 with a high degree of confidence using the mean and dependent t-tests. After the intervention initiative was put into practice, the results showed a considerable change in the numeracy level. The numeracy skill showed a considerable difference: the beginning level dropped from 13% to 10%, the proficient level climbed from 36 % to 54%, the developing level dropped from 46% to 36%, and the non-numerates reduced from 5% to 0%. The results of the significant difference analysis show that Project Renrich is a successful intervention program for raising learners' numeracy proficiency.

In Latiban, J., Mendez, S., et al. (2022), entitled “Factors Affecting Numeracy Skills” determine what factors affect the numeracy skills of the Grade IV students. This study examined the associations between variables influencing students' numeracy skills and their degree of numeracy skills using a descriptive correlational quantitative research approach. The study tool was a survey questionnaire with two sections: one asking about variables and the other a summative exam measuring the participants' degree of numeracy proficiency. Twenty-one Grade IV children from Owabangon Elementary School participated in this study as respondents during the 2021–2022 school year. The results findings indicated that the respondents' level of numeracy proficiency was low. On the other hand, it was regularly and continuously clear how much each of the three factors—student-related, environmental, and teacher- related—was being used to influence students' numeracy skills. According to this study, there were notable variations in the amount of practice regarding the variables influencing numeracy abilities. Additionally, the results of this study indicated a moderate correlation between the variables influencing numeracy skills and the degree of numeracy skills. One of the elements influencing students' numeracy proficiency was the teacher's ability to promote collaboration and involvement, which had an impact on the students' numeracy proficiency. The outcome suggested that some action was necessary, particularly for classroom teachers. In light of this, it was suggested that teachers utilize an intervention known as "Promoting the Use of Cooperative Learning Strategy in the Classroom: A Seminar for Teachers" to assist and motivate them in encouraging students to cooperate and participate in class in order to enhance their numeracy abilities.

In the qualitative study of Acharya, B. R. (2017), entitled “Factors Affecting Difficulties in Learning Mathematics by Mathematics Learners” the author states the different factors as to why the subject is difficult to learn: (1) Student Factors. The main reason why students are having difficulties in Mathematics is because of the anxiety where students have a negative feeling towards the learning process through this subject. The student’s responses were mostly because the subject is for the clever ones, a complex subject, and it has “no use in daily life”. (2) Teacher Factors. As Acharya has mentioned in the study, “The children’s education depends on the role of teacher in teaching learning activities.” Based on the data that have gathered by the researcher, teachers who are lacking in motivation or having negative attitude in teaching Mathematics have discouraged the students in the class which resulted to their difficulty to learn the subject. (3) Environment Factors. Acharya pointed out that the teacher should manage a suitable environment for learning Mathematics and should address the students’ needs and interests. From the data gathered on the study, the teachers still apply a traditional setting as a learning environment that discourages the students despite their willfulness. To define the “traditional setting” of teaching, the experiences of the students to learn in class does not promote a child-friendly space (e.g., teachers are threatening to memorize mathematical formula, lack of support, etc.). (4) Parent Factors. Another case of the environment factor is how the students are also treated in their home and to also bridge this case, parent factor plays an important role for their children’s education since these children rely on their parents for their education, not only financially but also emotionally. Also in this research, the researcher emphasized that there is also a factor for the parent’s educational background where it was found out that some of the interviewed children said that their parents were uneducated and unbeknownst of the subject matter which is Mathematics.

According to Balala, M. M. A., Areepattamannil, S., et al. (2021), entitled “Investigating the Associations of Early Numeracy Activities and Skills with Mathematics Dispositions, Engagement, and Achievement Among Fourth Graders in the United Arab Emirates”, stated that the present study aimed to examine the relations of early numeracy activities and skills to Mathematics dispositions, engagement, and achievement among 26,859 fourth graders in the United Arab Emirates who took part in the sixth cycle of the Trends in International

Mathematics and Science Study (TIMSS) in 2015. The study also explored the mediating effects of Mathematics dispositions and engagement on the relations between early numeracy activities and skills and Mathematics achievement among these fourth graders. Results of path analyses, after controlling for participants' demographic and socioeconomic characteristics, indicated that early numeracy activities and skills were significantly and positively related to Mathematics dispositions, engagement, and achievement. Further, results of mediational analyses suggested that confidence in Mathematics had a significant mediating effect on the relations between early numeracy activities and skills and Mathematics achievement. The findings of the study highlight the crucial role that early numeracy activities and skills play in enhancing fourth graders' Mathematics dispositions, engagement, and achievement in the United Arab Emirates.

According to the study of Chiu, M. (2018), entitled "Effects of Early Numeracy Activities on Mathematics Achievement and Affect: Parental Value and Child Gender Conditions and Socioeconomic Status Mediation", states that previous research has looked at the models that explain how early numeracy activities affect kids' later math proficiency, using parental values as a precondition and socioeconomic status (SES) as an interaction variable with numeracy activities. The multiple effects of early numeracy activities, conditioned by parental value, on Mathematics achievement and affect (e.g., confidence and interest), as well as the multiple effects to be mediated by SES and early numeracy activities, conditioned by parental value and child gender, were proposed in this study. TIMSS 2015 data from Taiwanese parental reports and Grade IV kid tests and reports (N = 4,291; 49% girls) were used to analyze the suggested models using structural equation modeling. Beyond the findings of earlier studies, three key discoveries may offer suggestions for improving instructional strategies. The confidence and interest in Mathematics are impacted by early numeracy activities, in addition to academic performance. In terms of accomplishment and confidence, but not interest, SES acts as a mediator between the effects of early numeracy activities. Given the moderating influence of socioeconomic status, early numeracy activities ought to include top-notch educational supports. There is evidence to suggest that parents' ought to engage in more early numeracy activities with their daughters, as there seems to be less engagement with Math from them.

In the research study of Penderson, A., Mononen, R., et al. (2022) entitled, "Improving Numeracy Skills in First Graders with Low Performance in Early Numeracy: A Randomized Controlled Trial", states that children with low performance in early numeracy are at risk of facing learning difficulties in Mathematics, but few trials have examined how this can be ameliorated. A total of 120 first grade children (M_{age} = 6.4 years) were randomly assigned to an intervention or a control condition. The 14-week intervention targeted early numeracy skills and was delivered in small groups three times a week. Immediately after the initial 8-week intervention phase, moderate and positive effects were found on early numeracy (d = 0.19), word problem solving (d = 0.41), and approximate number sense (d = 0.35). However, only the effects on word problems were significant, and all effects disappeared after the children undertook a second 6-week intervention phase. Overall, results indicate that (a) early numeracy skills are malleable in low-performing children, but (b) frequent and long-term interventions are needed for the positive effects to last.

In the study of Bryant, D. P., Pfannenstiel, K., et al. (2019), entitled "Improving the Mathematics Performance of Second-Grade Students with Mathematics Difficulties through an Early Numeracy Intervention", states that the aim of this research was to ascertain the impact of an early Tier 2 numeracy intervention on the mathematical performance of second-grade pupils who exhibit chronic challenges in Mathematics. In order to improve performance in second- grade early numeracy concepts and skills, whole number content and instructional design elements were applied. Using a pretest-posttest control group design, the researchers randomly assigned 83 students to the treatment condition and 38 students to the comparison condition. The Math interventionists on the research team worked with small groups of second-graders who had been recognized as having persistent Math challenges for 20 weeks, four days a week. Measures both proximal and distal were employed to assess the intervention's impact. The results indicated that on the proximal measure of Mathematics performance, pupils in the treatment group fared better than those in the comparison group. On the problem-solving tests, there were no variations between the groups' scores.

In the findings of Anam, F., Suteja, J. R., et al. (2020), entitled "Improving the Numeracy Mathematics Ability: The Role of Abacus Learning Model", states that most elementary school children said that the mathematics resources on addition and subtraction were hard to understand. The purpose of this study was to

enhance second grade pupils at Elementary School Kebraon II Surabaya, Indonesia's capacity to compute addition and subtraction of numbers in mixed count material using the Abacus learning paradigm. Planning, action, observation, and reflection are the four primary steps in each of the two cycles of the Abacus learning model with Kurt Lewin model approach used in this action research study. Tests, observations, interviews, and documentation were used to collect the data. Utilizing both individual and classical learning mastery, the data was analyzed. In the study's findings, using the Abacus learning model can enhance kids' learning accomplishment process to a "Good" standard between teachers and students and improve second-grade students' test results at Elementary School Kebraon II Surabaya, Indonesia by up to 86.66%.

According to the study of Seitz, M. & Weinert, S. (2022), entitled "Numeracy Skills in Young Children as Predictors of Mathematical Competence", states that Early predictors have long piqued the interest of researchers since mathematical proficiency is associated with success in school, in the workplace, and even with the economic prosperity of a nation. While many studies have examined the relationship between domain-specific numerical skills and later mathematical competence in preschoolers, there is a dearth of research on toddlers, particularly when it comes to other factors that may be significant—such as the children's social background and domain-general cognitive abilities. The current study investigated the predictive impact of numeracy skills in 17-month-olds for later mathematical achievement using a large-scale dataset. Even after adjusting for factors linked to the children, such as age and sex, as well as their social background, such as mother education and household language, we discovered marginally beneficial results. Furthermore, we examined the outcomes against a domain-general categorization task and discovered no discernible impact on mathematical proficiency. The specifics of the dataset and the implications for future research on predictors of mathematical competence are examined in relation to the current results.

According to the findings of Aunio, P., Korhonen, J., et al. (2021), entitled "An Early Numeracy Intervention for First-Graders at Risk for Mathematical Learning Difficulties", states that this study sought to determine whether an intervention program could enhance the early numeracy abilities of first-graders in South Africa who are at-risk for arithmetic learning challenges. 267 students from 17 different classrooms in the greater Johannesburg area made up the participants. Early numeracy abilities were the outcome measure in this quasi-experimental small group intervention study (15 sessions over 5 weeks). The children were split into three groups: an intervention group (N = 40), a low-performing control group (N = 32), and an average-performing control group (N = 195), based on their pretest early numeracy scores. The main findings indicated that the intervention group had improved more in numerical relational skills than the low-controls; this effect persisted in the delayed post-measurement and was statistically significant even after adjusting for kindergarten attendance, executive functions, and language skills. The growth of early numeracy skills at the start of the intervention was predicted by executive functions, language skills, and kindergarten attendance; however, only executive functions were able to explain individual differences in counting skill development from pre- to delayed posttest.

According to the study of King, Y. & Purpura, D. (2020), entitled "Direct Numeracy Activities and Early Math Skills: Math Language as a Mediator", states that numerous studies show that early numeracy skill development is significantly influenced by the home numeracy environment. Additionally, there is proof that a preschooler's comprehension of arithmetic language is a reliable indicator of their numeracy abilities. On the other hand, little study has been done on how Math language proficiency relates to early numeracy abilities and the family numeracy environment. The aim of this research was to examine the relationship between Math language as a mediator and numeracy skills in the context of the home (participation in direct numeracy activities). A 125 children between the ages of 3.12 and 5.26 (M = 4.17, SD = 0.58) and their parents were among the participants. Parents provided information about how often they directly involve their kids in Math activities. Children's numeracy abilities and Math language understanding were evaluated in the fall and spring of their preschool year. The results revealed that there is a mediating role for Math language in the relationship between numeracy skills and the direct Math environment at home. According to these findings, a preschooler's Math language skills may be the reason for the relationship between early numeracy and the direct home numeracy environment.

Based on the study results of Ridwan, M., Misbahudholam, M., et al. (2023), entitled "Improve the Numeracy Skills of Fifth-Grade Students Through Self- Efficacy in Elementary Schools", states that one of the factors

used to evaluate pupils for the Minimum Competency Assessment is their numerical aptitude, which serves as the foundation for working on Math issues. According to the OECD's PISA results, Indonesia scored 74th out of 79 nations, indicating that the country still has very low levels of numeracy literacy. The purpose of this study is to examine fifth-grade kids' numeracy abilities using self- efficacy in elementary schools. The study design is causal- comparative research, sometimes referred to as ex-post facto research using a quantitative methodology. Thirty-two fifth-graders participated in this study as respondents. Numeracy skills test questions and self-efficacy questionnaires were the research instruments employed. Simple linear regression analysis was employed in this study's data analysis, along with descriptive and inferential statistics. The findings of the study demonstrate that students' self-efficacy can greatly raise their numeracy abilities. Student self-efficacy has a 51.2% impact on students' numeracy abilities. Meanwhile, variables other than self-efficacy affect 48.8%. The study's findings also demonstrate that students' numeracy literacy skills will improve with higher levels of self- efficacy.

In the study of Nahdi, D., Cahyaningsih, U., et al. (2023), entitled "Mathematics Interest and Reading Comprehension as Correlates of Elementary Students' Mathematics Problem-Solving Skills", states that adapting to new difficulties is crucial in the ever-changing global landscape. When navigating unexpected situations, Mathematics plays a crucial role as it is recognized as a major component of problem-solving skills. This research investigates the relationship among elementary school pupils between their interest in Mathematics, reading comprehension, and mathematical problem-solving skills. The importance of using mathematical knowledge in a variety of contexts is being emphasized by employers and academic institutions, which has led to changes in education that place a higher priority on problem-solving abilities. Seventy-six elementary children in Majalengka Regency, Indonesia participated in the study, which used exams and questionnaires to examine the students' interests in Mathematics, reading comprehension, and problem-solving techniques. Results showed that reading comprehension and mathematical problem-solving skills had a significant positive link that outperformed the correlation with mathematical curiosity. This was further supported by regression analysis, which showed the significant combined effects of reading comprehension and Mathematics interest on students' ability to solve issues. This study emphasizes the critical role that reading comprehension plays in understanding narrative-based mathematical problems. These findings highlight the need of teaching Mathematics in a comprehensive. Students' mathematical problem-solving skills can be significantly improved by addressing affective, reading proficiency, and cognitive elements. Improved teaching strategies and better academic results in Mathematics can be achieved by having a better understanding of the relationships between affective capacities, reading comprehension, and mathematical interest.

According to the research study of Muskens, M., Frankenhuis, W. E., et al. (2024), entitled "Math Items About Real-World Content Lower Test-Scores of Students from Families with Low Socioeconomic Status", states that Standardized Math exams are a prerequisite for success in school in many nations. Here, we investigate whether low- SES students' performance is influenced by the narrative that answers a mathematical question or by the content of the item. We investigate whether item content that is more likely to be related to challenges for low-SES students (money, food, social relationships) improves their performance, compared with their average Math performance, in a large-scale cohort study of Trends in International Mathematics and Science Studies (TIMSS), which includes data from 58 countries from students in Grades IV and VIII (N = 5501,165). Results show that low-SES students scored lower on items with this specific content than expected based on an individual's average performance. The effect sizes are substantial: on average, the chance to answer correctly is 18% lower. From a hidden talents approach, these results are unexpected. However, they align with other theoretical frameworks such as scarcity mindset, providing new insights for fair testing.

In the study of Salihu, L. (2018), entitled "Mathematics Skills of Kosovar Primary School Children: A Special View on Children with Mathematical Learning Difficulties", states that the current study looked at how Kosovar primary school students developed their mathematical skills in relation to their gender, place of residence, socioeconomic situation, and degree of achievement. Particular focus was on long-term studies that tracked the growth of mathematical abilities in kids who struggled with the subject over a two-year and four-month span. The study comprised 553 fourth-graders, 85 of whom had been diagnosed with arithmetic learning challenges. The participants were divided into two subgroups: kids with low Math achievement and kids with

restricted Math ability. Results have shown that there were no gender differences in Mathematics achievement. Children's living areas as well as their socio-economic status were observed to have a substantial impact on Math performance. The performance level of limited Math ability children was lower as compared to low Math achieving children on all of the measures assessing Math outcomes and reading comprehension. Findings indicate that a majority of the limited Math ability group members still met the cutoff criterion after more than 2 years of school attendance.

According to the study of Mellyzar, M., Unaida, R., et al. (2022), entitled "Hubungan Self-efficacy dan Kemampuan Literasi Numerasi Siswa: Ditinjau Berdasarkan Gender (The Relationship between Self-efficacy and Student Numeracy Literacy Ability: Reviewed by Gender)", states that self- efficacy can be influenced by internal characteristics such as gender. Students that have high self-efficacy are expected to have strong motivation, awareness, and self-regulation, which is believed to have a favorable effect on learning outcomes including numeracy skills. The objectives of this study are to examine how gender affects students' self-efficacy and numeracy literacy abilities as well as the relationship between gender and self-efficacy and students' numeracy literacy skills and the impact of self- efficacy on students' numeracy literacy skills. The descriptive method is employed. The study included 88 VIII SMP students from four schools in North Aceh and Lhokseumawe, 44 of whom were male and 44 of whom were female, and who took part in the 2021 national evaluation. The questionnaire tool utilized for data collection was the self-efficacy questionnaire, which has 36 valid numeracy literacy questions and 45 statement items that follow the AN question grid. The findings demonstrated that (1) there was no significant difference between the self-efficacy of male and female students, (2) there was no significant difference between the literacy and numeracy abilities of males and females, (3) there is a high and positive correlation between self-efficacy and literacy numeracy students, and (4) the coefficient of determination (R 2) of 0.489 explains that the influence of self-efficacy with literacy numeracy students is 48.9%.

Academic Performance of Learners The concept of academic performance is believed to possess an amorphous nature, since it broadly incorporates various factors ranging from attaining a professional degree to the development of students in the moral sense. The perspective-oriented nature of "academic performance" further creates hindrance in giving an exhaustive definition of the term. For some entities, completing courses and gaining knowledge and skills may be the meaning of academic performance (York, T., Gibson, C. E., et al., 2015).

In the research conducted by Kiss, A., Nelson, G., et al. (2019), entitled "Predicting Third Grade Mathematics Achievement: A Longitudinal Investigation of the Role of Early Numeracy Skills", states that though a great deal of study has been done on the early predictors of Math ability, less has been done to look at the predictors of other Math domains (such geometry and statistics). Examining the relationship between first-grade early numeracy and computation skills and third-grade Mathematics achievement as determined by a state exam was the goal of the current study. Additionally, for children who were proficient and below proficient, we investigated the relationships between these variables. The results indicate that when analyzing the relationship between mathematical skills, proficiency level matters. Furthermore, distinct patterns of important predictors exist based on the domain of later mathematical achievement and whether reading achievement was taken into account. The results are examined in relation to how pupils who struggle with Math learn it.

Based on the research study of Toral-Guzman, M. (2023), entitled "Attitudes and Academic Performance of Grade VI Students in Learning Mathematics: Conceptual Understanding in the Context of Education", states that one of Mathematics' main objectives is to provide a methodical approach to problem solving so that similar issues can be approached more easily. Mathematics is an integral part of daily life. Higher academic achievement may be influenced by a greater level of conceptual knowledge in Mathematics. This study sought to ascertain the students' opinions toward their academic achievement in Mathematics classes as well as their degree of knowledge. At Dimasalang Elementary School in the District of San Luis I, Division of Agusan del Sur, Philippines, the study was carried out during the 2022–2023 academic year. The purpose of this research was to provide a basis for creating or launching a bridge

program at the aforementioned school for incoming sixth graders. Additionally, the study used a quantitative methodology with a descriptive correlational research design. Students from the aforementioned school made

up the study's participants, and total enumeration sampling was used to find the real respondents. The results showed that sixth-grade students' conceptual grasp of Mathematics had an overall mean score of 78.13 with a standard deviation of 27.74, signifying an approaching level of understanding.

The students that took the test had an average score between 24 and 43 on the 50-item knowledge test. As a result, the academic performance was significant (0.089). The attitudes were significant (sig=0.000, however the conceptual comprehension had a significance value of 0.452. The largest degree of influence was found in the attitude toward learning Mathematics, with beta weights of 0.264, t=4.123, and p-value of 0.000, which shows that it is significant at the 0.01 level. Additionally, students in Grade VI understood Mathematics conceptually with beta- weights of 0.216, (t=-3.088), and probability of 0.452. This suggests that greater performance in Mathematics is correlated with a more positive attitude about the subject. The study's findings will serve as the foundation for developing and implementing an intervention program that will help students' conceptual comprehension and attitude toward Mathematics.

In the research study of Perez, P. P. (2023), entitled “Effectiveness on the Utilization of Numeracy Station Materials in Improving the Performance of Grade I Pupils in Math”, states that a child's performance in school depends on their ability to read, write, and count. These are the most crucial abilities for them to learn early on in life and later on in life. Among one of the degrees to which a child has progressed in these fundamental skills is one of the best indicators of their academic performance. Even if children's skills in reading, writing, and arithmetic improve as they become older, the early childhood. The most crucial time for language, reading, and education is between the ages of one and eight. Improvement of numeracy (DO #12, s. 2015). The skills of reading, writing, and counting do not evolve either organically or without rigorous preparation and guidance. It is crucial to support children's development that age and culturally-appropriate resources are easily accessible and available in the routine of reading and counting exercises (DO #12, s. 2015).

Therefore, it is essential to supply the suitable learning resources and activities for the students, and these resources must be found in each key stage 1 classroom's numeracy stations, ready for use by the students throughout their instruction in numeracy. Thus, given the current circumstances in the classroom during the commencement of lessons where the majority of Key Stage 1 students have had difficulty with numeracy manifestation. Teachers were therefore required to create intervention activities and resources to address the urgent issues in DepEd caused by the epidemic, which is why this investigation was established to assess how well numeracy station materials work to improve the Math performance of the first-graders. Employing the study design that is quasi-experimental utilizing the results of the pre- and post-tests, as well as the intervention resources and tasks in the data from the study's numeracy stations showed a substantial difference between the Grade I students' pretest and posttest results before and after using numeracy station supplies for Math instruction. Therefore, the manipulable, vivid, relevant, and interactive resources in the numeracy stations help to raise the Grade I pupils numeracy performance. Aside from these, independent working and managing their own activities to accomplish with accuracy were also developed while doing the tasks prepared by the researcher in each of the numeracy station at their own pace.

In the study of Mijares, B. F., III (2022), entitled “Factors Affecting the Academic Performance of Learners in Mathematics amidst Pandemic”, states that the purpose of the study was to look into the relationship between learners' perceived attitudes about their academic success in Mathematics and parental involvement. The researcher employed a sample of 134 parents and students from Grades IV-VI at Bungahan Elementary School in order to accomplish this goal. The researcher employed standardized questionnaires from published research as part of the descriptive-correlational technique of research. The study clearly shows that pupils’ views about Mathematics do not affect their academic performance in the subject. As a result of the correlational analysis, the null hypothesis was accepted and learners' perceived attitudes toward Mathematics, such as (a) motivation and support, (b) anxiety in learning, and (c) self-efficacy in learning Mathematics, were found to have no significant impact on their academic performance. These perceived attitudes received a significant level of greater than 0.05. Only the mentoring techniques that parents offered their children throughout the specified school year, out of all the various forms of parental involvement mentioned in the study, were successful in raising their Math performance. The academic achievement of learners and their parents' mentoring practices are significantly correlated; p= 0.016 (<0.05), which indicates that a p-value less than 0.05 indicates that the association is statistically significant (at the 5% level). The correlation coefficient for this is -0.253, which is

negative. In other words: as the Mentoring Strategies increase, Learners' Academic Performance decreases. Concerning the strength of the correlation, - 0.253 can be said to be weak. Nevertheless, it is critical to investigate how parents can assist and contribute to their children's academic success. Conclusions were drawn and recommendations were offered.

In the research study of Ayuman-Valdez, E. & Guiab, M. R. (2015), entitled "Predictors of Mathematics Performance of Grade VI Pupils in a School", states that This study reports on the several determinants of the Grade VI Mathematics performance of the students in the Cauayan Northeast District. This study combines correlation and description. It employed the fishbowl technique for student respondents and cluster sampling to find school respondents. 105 students and 12 teachers from six (6) different schools answered the survey. ANOVA, Pearson Moment Coefficient of Correlation (r), mean, standard deviation, frequency and tally percent, and standard deviation were used in the statistical analysis of the data. The results showed that students have a positive attitude toward the subject; most of them are highly confident in their abilities and have a strong focus on success, but they are less confident when it comes to their defense; students rated their teacher as "Very Satisfactory"; their performance in Mathematics is approaching proficient or average. It was discovered that the only factor that could predict a student's performance in Mathematics was their math teacher. The study validated the long-held notion that a teacher has a significant impact on a student's ability to learn. It suggests that administrators support educators in their efforts to advance their careers.

Based on the study of Taura, U., Lawal, M., et al. (2019), entitled "Socio-economic Status, Gender and Academic Performance of Gifted Pupils in Kuka Bulukiya Gifted Primary School, Kano State", states that this study sought to ascertain the impact of gender and socioeconomic status on the academic achievement of gifted students at Kuka-Bulukiya School for the Gifted in Kano. The study comprised a population of 142 talented students, with a purposive sample size of 90. The study was designed ex post facto, and the instruments used to gather data were end of session examination records for Mathematics and English language, and a questionnaire to determine the socioeconomic position of the parents. The split half reliability of the questionnaire was determined to be 0.92, while its validity was assessed at 0.74. The two primary statistical methods utilized to analyze the data were the frequency distribution and the t-test. The results showed that the socioeconomic status of the parents of gifted pupils varies; there is no statistically significant difference in the academic achievement of male and female gifted pupils; however, there is a statistically significant difference between the academic performance of gifted pupils from low and high socioeconomic status. Therefore, it was determined that students with higher socioeconomic position outperformed those with lower socioeconomic status and that gender had no bearing on academic performance differences. Based on the findings, teachers were advised to identify pupils from low socioeconomic status as soon as possible so that they can receive the necessary support. Additionally, male and female gifted pupils should be treated almost equally in the classroom and in school-related activities as a whole.

In the study of Post, K. A. (2022), entitled "Acceleration in Students with Gifted and Talented and Low Socioeconomic Status: Yearly Academic Growth in Grade V Math", states that the current study, a causal comparative quantitative study, looked at how acceleration affected students' growth based on socioeconomic status and the relationship between content-based accelerated instruction and the growth of gifted and talented students enrolled in the participating district's accelerated advanced Math class. Students in Grades V and VI who took the advanced Math course between 2019 and 2021 were included in the population. Three separate t-tests were conducted by the researcher. The Measures of Academic Progress (MAP) progress assessment in Math was utilized to determine the annual progress of the students. The findings revealed no statistically significant difference between Grade V students receiving the accelerated curriculum and Grade IV gifted and talented children receiving the conventional grade-level curriculum. Based on the pupils' categorization as gifted and talented, there was no statistically significant difference in the mean MAP Growth Conditional Growth Percentiles of Grade V students enrolled in the advanced course. Based on socioeconomic background, there was no statistically significant difference in the mean MAP Growth Conditional Growth Percentiles of Grade V pupils enrolled in the advanced course. Acceleration as an intervention for gifted and talented students did not result in higher growth scores in arithmetic. Pupils who took part in the advanced Math course fared as well as their peers in terms of socioeconomic background and giftedness.

The study of Johnson, B., Fyfe, E., et al. (2016), entitled "Early Math Trajectories: Low-Income Children's Mathematics Knowledge from Ages 4 to 11", states that although a child's early mathematical proficiency is a good indicator of their later academic success, children from low-income homes typically have inadequate Math proficiency when they start school. A 517 low-income American children between the ages of 4 and 11 are the subjects of a longitudinal study in which an early Math pathways model is put forth and assessed. This approach covers a wide range of Math subjects and suggests several routes for students to follow from preschool to middle school mathematical proficiency. Preschoolers' understanding of nonsymbolic quantity, counting, and patterning was predictive of their mathematical achievement in the fifth grade. By the end of the first grade, the key predictors were understanding of computation, pattern recognition, and symbolic mapping. Additionally, the relationship between preschool Math proficiency and fifth-grade math achievement was mediated by the first-grade predictors. The findings support the early Math pathways concept for kids from low-income families.

As what stated in the study of Achkar, A. M. N. E., Leme, V. B. R., et al. (2019), entitled "Life Satisfaction and Academic Performance of Elementary School Students", states that to sought to find out how risk and protective factors related to primary school children' academic achievement and level of life satisfaction. Twenty-six female teachers from Rio de Janeiro's public and private schools, along with 400 students of both sexes, ages 11 to 17, were participants. Maslach Burnout Inventory, Brazilian Youth Questionnaire, Social Support Perception Scale, and Social Skills Inventory for Adolescents were the tools used. The primary findings indicated that pupils' exposure to family violence, teachers' emotional tiredness, and their own low professional achievement contribute to a poor academic performance in school. Students who demonstrated self-control abilities and social support from their family and community also showed better levels of life satisfaction. The findings of this study support the need for further future interventions by highlighting the contextual and individual factors that influence students' academic and socioemotional growth.

As stated in the study of Guhl, P. (2019), entitled "The Impact of Early Math and Numeracy Skills on Academic Achievement in Elementary School", states that the impact of developing early Math and numeracy skills before starting formal schooling on subsequent academic success is examined in the literature review that follows. Early childhood education currently places a lot of emphasis on literacy. But as this assessment of the literature demonstrates, early Math proficiency is a stronger indicator of academic achievement through elementary school. For this review, a number of research that demonstrate the impact of these abilities on future arithmetic success were consulted. This study covers early arithmetic and numeracy skills, their development in young children, their significance, how they impact Math success later on, and best practices for teaching these skills to young children. It is clear from reviewing the prior studies and literature and integrating it with my personal experiences that early arithmetic instruction has a significant influence on later academic success, particularly in Math. Parents, early childhood educators, administrators, district authorities, and curriculum developers should all take note of this material. To support this finding, more studies on the relationship to advanced Math courses in middle and high school as well as the relationship to other topics are required.

In the study of Swain, B., Bhabani, S., et al. (2023), entitled "Learning Difficulties of Elementary School Students in Mathematics", states that in the current study, the population was divided into two groups: pupils in standards 3 and 5 and Math teachers. The sample is made up of 169 pupils, 72 males and 97 females (75 from Bonth block and 94 from Basudevpur block), and 25 teachers, 14 from Basudevpur block and 11 from Bonth block (9 males and 16 females). The primary goal of the study is to determine the various difficulties that elementary school pupils encounter when solving mathematical issues and the degree to which each child's arithmetic challenges are unique. The result of the above points and the analysis of problem- solving difficulties taken from the teacher's questionnaire and interview shows that 1) students do not understand the meaning of the problem; 2) they don't write the steps in a proper sequential manner; 3) students are unable to understand the keywords in the given problems; 4) students are careless in their reading of the mathematical problems, which leads to mistakes, such as "Write in expanding the form of a given number," but the answer of the problem was written in the form of "write-in words," which is totally different; and the last one is that 5) students' problem- solving skill is not in a good manner. The above points, combined with the analysis of the problem-solving challenges gleaned from the teacher's questionnaire and interview, reveal that: 1) students

struggle to understand the problem; 2) they don't write the steps in a proper sequential manner; 3) students struggle to understand the keywords in the problems; 4) students read the mathematical problems carelessly, which results in errors like "Write in expanding the form of a given number," when the answer was written in the form of "write-in words," which is completely different; and 5) students' problem-solving abilities are not well-mannered. After the data were loaded into SPSS software, it was found that the standard three questions had a reliability of more than 0.7, while standard five questions had a reliability of more than 0.6. The questions in each class were assumed to be statistically reliable from a statistical perspective; however, standard three is more dependable than standard five. The training and testing processes have remarkably minimal average root mean square error (RMSE) values, which are 0.083 and 0.078 and 0.087 and 0.086 for standard three and five, respectively. As a result, this confirm that there is a fantastic model fit for determining the correlation between the question items and the students' performance. The ANN model's R2 was recorded in the current analysis, and the results showed that the model can accurately forecast the difficulties in solving numerical problems with a precision of 98.2% for standard 3 and 79.9% for standard 5.

According to the study findings of Cueto, A. (2019), entitled “Difficulties Encountered by the Grade I Pupils in Mathematics”, states that Education of the future lies with us, the generation of today. Additionally, learning Mathematics is a major component of a child's education. Even at the very young age of the student, Mathematics is there. However, today's kids have a lot of issues with this topic. When they hear numbers, they close their ears, and when they read mathematical symbols and processes, they cross their eyes. They are so hesitant to listen to the conversation. However, Math is something we cannot avoid. Math is present in every year of our lives. Thus, we must pay attention to this. However, we cannot dispute that Mathematics is an extremely challenging topic. Therefore, we ought to support a shift in our perspective on Math, particularly with regard to students. The results found out most Grade I students perform below the low and very low average level in Mathematics based on their final scores. The difficult part of the lesson that burden the pupils are adding/subtracting numbers including money with or without regrouping and analyzing word problems. Based on this results teacher of Grade I pupils in Mathematics should really take in charge of making this situation simpler. They should demonstrate positive attitudes towards Math and to our pupils to encourage them to have an interest in learning Math.

According to the study of Yeh, C. Y. C., Cheng, H. N. H., et al. (2019), entitled “Enhancing Achievement and Interest in Mathematics Learning through Math-Island”, states that in Taiwan, traditional teacher-led instruction still holds sway in the majority of basic Math classes. It is rare for the teacher to be able to attend to every student under such teaching. After then, a lot of kids can keep falling short of the required Math proficiency and lose interest in the subject, giving up on learning the subject altogether. In fact, compared to many other areas and nations, students in Taiwan are often less interested in learning Mathematics. Therefore, improving pupils' interest in and performance in Mathematics are two important issues, particularly for those children who perform poorly. This paper explains how we integrated the mechanics of a building management game into the elementary Mathematics curriculum's knowledge map to create a game- based learning environment we named Math-Island. These also provide the results of a two-year study including 215 elementary pupils, spanning from grade II to grade III. In this experiment, students were instructed to use their personal tablets for both at-home and in-class learning with Math-Island in addition to receiving teacher-led instruction. The results show in the investigation that there’s an increased in pupils' mathematical achievement, particularly in word problems and calculations. Furthermore, in word problems, low-achieving children in the experimental school did better than low-achieving students in the control school (a control group in a different school). Additionally, the experimental school's high achievers and poor achievers both continued to show a strong interest in Mathematics and the system.

According to the research study of Fateel, M., Mukallid, S., et al. (2021), entitled “The Interaction between Socioeconomic Status and Preschool Education on Academic Achievement of Elementary School Students”, states that school-age children's academic achievement may rise with the aid of preschool education. However, for some members of the public, this is not practical, and preschool admissions are denied on the basis of parents' socioeconomic standing. This study aimed to quantify the impact of preschool education and socioeconomic status on academic achievement among students in government elementary schools in Bahrain. The research used a quantitative methodology. Four hundred two boys and girls in Grades I through VI made

up the sample. According to the findings, children who received preschool instruction performed better academically than their non-preschool counterparts. There were no significant differences in students' later academic achievement with reference to socioeconomic status, and there was no interaction between preschool education and socioeconomic status on academic achievement. It was suggested that policymakers support the public and private sectors' investments in early childhood education, carry out additional studies on the effects of socioeconomic status on academic achievement at various school levels, and broaden the definition of socioeconomic status (SES) to include parental abilities and marital status and their influence on children's achievement.

Based on the study of Sengonul, T. (2022), entitled "A Review of the Relationship between Parental Involvement and Children's Academic Achievement and the Role of Family Socioeconomic Status in This Relationship", states that the current study has investigated the relationship between parents' involvement in their children's education and their academic achievement, as well as the role that socioeconomic status plays in this relationship. It is based on Bronfenbrenner's (1986) "ecological" system theory, Bourdieu's (1997) concept of cultural capital, and Coleman's concept of social capital. A reanalysis of 42 research conducted between 2003 and 2021 produced results that showed a positive relationship between children's academic achievement and parental participation. The results of a reanalysis of 42 research published between 2003 and 2021 showed that children's academic achievement and parental participation were positively correlated. Parental involvement both at home and at school, including reading to their children at home, encouraging and supporting their learning, setting high expectations for their education and academic success, communicating with them, and talking to them about school-related matters, has all had a positive effect on children's academic achievement. Socio-economic status (SES) affected the relationship between parental involvement and school success of children and played a mediating role in this relationship. Children of families with higher socioeconomic status made better use of their parents' involvement thanks to their parent's greater cultural capital. Nevertheless, the educational involvement that parents with lower socioeconomic status can demonstrate is important in that it reduces or eliminates the disadvantages that children from poor and lower educated families may encounter and the risk of academic failure. The impact of increased parental involvement on poor and lower SES children was greater, and these children made better use of parental involvement and were able to boost their academic achievement to a certain extent.

METHODOLOGY

Research Design

This correlational study design determines the level of numeracy skills and academic performance in Mathematics of Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School, Lagubang, Barotac Nuevo, Iloilo.

A correlational research design investigates relationships between variables without the researcher controlling or manipulating any of them. A correlation reflects and/or direction of the relationship between two (or more) variables. The direction of a correlation can be either positive or negative.

This research design was appropriate in this study because it shows the relationship in the level of numeracy skills and academic performance of Grade VI Learners Regular Class.

Locale of the Study

The study was conducted at Barotac Nuevo Central Elementary School, Lagubang, Barotac Nuevo, Iloilo. Barotac Nuevo Central Elementary School is a public elementary school located in Barotac Nuevo, Iloilo, Philippines. The school has a rich history dating back to its establishment. The school was founded on September 24, 1947, during the post-war period in the Philippines. It started as a small school with only a few classrooms and a handful of students. The school was initially named Barotac Nuevo Elementary School and was situated in a temporary facility. Over the years, the school grew and expanded its services to accommodate the increasing number of students in the community. In 1957, a new school building was constructed to provide better facilities for learning. With the growth of the student population, the school underwent various

renovations and improvements to ensure a conducive learning environment. In 1975, Barotac Nuevo Elementary School underwent a major transformation. It was elevated to the status of a central elementary school, thereby becoming Barotac Nuevo Central Elementary School. This upgrade brought additional resources and opportunities for the school to provide quality education to its students. Barotac Nuevo Central Elementary School has stood as an institution committed to academic excellence and community development. Throughout its history, the school has produced outstanding graduates who have made significant contributions in various fields. Today, Barotac Nuevo Central Elementary School continues to thrive as an important educational institution in the locality. It remains dedicated to providing quality education and nurturing the intellectual, moral, and physical development of its students.

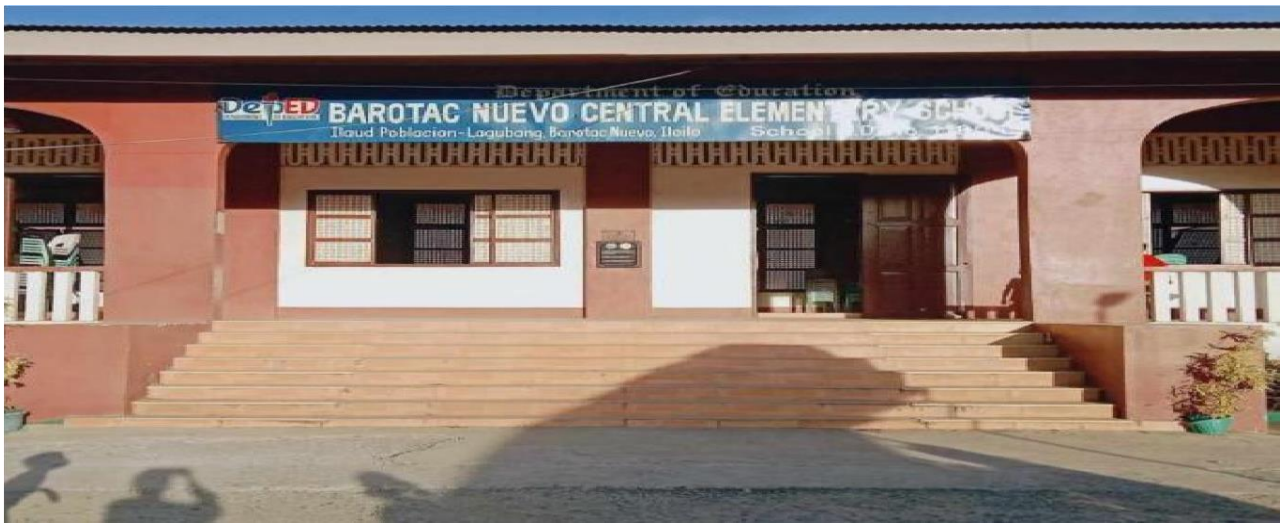

Figure 2. Image of the School

Respondents of the Study

From the total two hundred eighteen (218) Grade VI Learners Regular Class of Barotac Nuevo Central

Elementary School for the S.Y 2023-2024, a sample of 69 respondents were chosen using the “fishbowl” method of random sampling technique. The selection of these respondents was determined using Slovin’s formula $n = \frac{N}{1 + Ne^2}$.

Where: n is the number of samples N is the population, and E is the margin of error The sample were selected from the official list of enrolled Grade VI learners’ regular class of Barotac Nuevo Central Elementary School. The researchers calculated the number of samples from the officially enrolled Grade VI learners regular class by calculating the percentage. This approach aimed to ensure that every member of the population had an equal opportunity to be chosen as a sample.

Research Instrument

The main instrument used was the adapted standardized test questionnaire by Mrs. Cherry D. Paguapo, Master Teacher I from San Jose Elementary School (2017-2018) which is, specifically designed by the DepEd region for this study.

The instrument was composed of two parts, Part I was the personal information which consists of sex and socio- economic status. Part II was composed of 60-item test questions about the four basic Math operations, fractions and word problems that the respondents needed to answer.

Data Gathering Procedure

Permission of letter from the office of the Principal of Barotac Nuevo Central Elementary School, Lagubang, Barotac Nuevo, Iloilo was personally sent to officially permit the researchers to conduct the study.

A recommending approval letter was obtained from the office of the Dean of College of Education at Iloilo State University of Fisheries Science and Technology, Main Campus-Poblacion Site, Barotac Nuevo, Iloilo to officially permit the researchers to conduct the study.

The adapted standardized test questionnaire was personally distributed to the respondents by the researchers. The respondents were made to understand the purpose of the study. They were assured of the confidentiality of their responses.

Data Analysis Procedure

The data gather for this study was subject to certain statistical tools. To determine the level of numeracy skills and academic performance in Mathematics of Grade VI learners' regular class of Barotac Nuevo Central Elementary School. After collecting the adapted standardized test questionnaire, the results were summarized, analyzed, and interpreted using the following statistical tools:

Mean. Mean is the simple mathematical average of a set of two or more numbers. This tool was used to determine the level of numeracy skills and academic performance in Mathematics of Grade VI learners' regular class when grouped according to sex and socio-economic status.

Standard Deviation. Standard deviation is a statistic that measures the dispersion of adataset relative to its mean and is calculated as the square root of the variance. This tool was used to determine the measurement of data in relation to the mean according to sex and socio-economic status.

Anova. Analysis of variance, or ANOVA, is a statistical method that separates observed variance data into different components to use for additional tests. This tool was used to determine the significant difference in the numeracy skills and academic performance of Grade VI learner's regular class when grouped according to socioeconomic status.

T-test. A t-test is an inferential statistic used to determine if there is a significant difference between the means of two groups and how they are related. This tool was used to determine the significant difference in the level of numeracy skills and academic performance of Grade VI learner's regular class when grouped according to sex.

Pearson-r. Pearson correlation coefficient, or Pearson -r, is a correlation coefficient that measures linear correlation between two sets of data. This tool was used to determine the relationship in the level of numeracy skills and academic performance of Grade VI learner's regular class.

Absolute Value of r Strength of Relationship

$r < 0.3$ None or very weak
$0.3 < r < 0.5$ Weak
$0.5 < r < 0.7$ Moderate
$r > 0.7$ Strong

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Level of numeracy skills in Mathematics of Grade VI learner's regular class when taken as a whole and when grouped according to sex and socio-economic status.

Table 1 shows the level of numeracy skills in Mathematics of Grade VI Learners Regular Class when taken as a whole and when grouped according to sex and socio- economic status. The results revealed that when respondents are taken as a whole the level of numeracy skills in Mathematics of Grade VI Learners Regular Class is "beginning", M = 1.70 and SD = .523.

This implied that they have limited grasp in fundamental mathematical concepts and operation. They need support and intervention to build a strong foundation in their numeracy skills. It affirms to the study of Latiban,

J., Mendez, S., et al. (2022), entitled "Factors Affecting Numeracy Skills", the results indicated that the respondents' level of numeracy proficiency was low.

The result further revealed that when Grade VI Learners Regular Class when taken as whole and when grouped according to sex and socio-economic status, the result showed that their level in numeracy skills is "beginning".

The level of numeracy skills in Mathematics when grouped according to sex goes along with the study of Salihu, L. (2018), entitled "Mathematics Skills of Kosovar Primary School Children: A Special View on Children with Mathematical Learning Difficulties", results have shown that there were no gender differences in Mathematics achievement. Children's living areas as well as their socio-economic status were observed to have a substantial impact on Math performance. The performance level of limited Math ability children was lower as compared to low Math achieving children on all of the measures assessing Math outcomes and reading comprehension.

On the other hand, the level of numeracy skills in Mathematics when grouped according to socio-economic status affirms to the study of Muskens, M., Frankenhuis, W. E., et al. (2024), entitled "Math Items About Real-World Content Lower Test-Scores of Students from Families with Low Socioeconomic Status", results showed that low-SES students scored lower on items with this specific content than expected based on an individual's average performance.

Table 1

Level of numeracy y skills in Mathematics of Grade VI learners' regular class when taken as a whole and when grouped according g to sex and socio-economic status.					
Category	Standard Deviation (SD)			Mean(M)	Description
As a whole				1.70	
Sex				1.66	Beginning
Male				1.72	Beginning
Female				1.68 1.70	Beginning
Socio – Economic Status		.523		1.79	Beginning
Low		.484			Beginning
Middle		.554			Beginning
High		.518			Beginning
		.470			
		.837			

Score	Scale	Description
48-60	4.20-5.00	Advanced
36-47	3.40-4.19	Proficient
24-35	2.60-3.39	Approaching
12-23	1.80-2.59	Developing
	1.00-1.79	

0-11		Beginning
Academic perform ance in Mathematics of Grade VI learners' regular class when taken as a whole and when grouped according to sex and socio- economic status.		

Table 2 shows the Academic performance of Grade VI learner's regular class when taken as a whole and when grouped according to sex and socio-economic status. The results revealed that the academic performance of the Grade VI learners' regular class when taken as a whole is "good", M= 2.96, SD = .716.

This implied that they are not performing well in Mathematics subject. They could be struggling to understand mathematical concepts, solving problems, or applying mathematical skills. It is important to identify the specific areas where they are struggling and provide appropriate support and resources to help improve their performance in Mathematics. It goes along with the study of Cueto, A. (2019), entitled "Difficulties Encountered by the Grade I Pupils in Mathematics", the results found out most Grade I students perform below the low and very low average level in Mathematics based on their final scores. 51

The result indicates that when Grade VI Learners Regular Class when taken as a whole and when grouped according to sex and socio-economic status, the result revealed that their level in academic performance is "good". The academic performance in Mathematics when grouped according to sex affirms to the study of of Ayuman-Valdez, E.& Guiab, M. R. (2015), entitled "Predictors of Mathematics Performance of Grade VI Pupils in a School", the results showed that students have a positive attitude toward the subject; most of them are highly confident in their abilities and have a strong focus on success, but they are less confident when it comes to their defense; students rated by their teacher as "Very Satisfactory"; their performance in Mathematics is approaching proficient or average.

On the other hand, the academic performance in Mathematics when grouped according to socio-economic status goes along with the study of Sengonul, T. (2022), entitled "A Review of the Relationship between Parental Involvement and Children's Academic Achievement and the Role of Family Socioeconomic Status in This Relationship", socio-economic status (SES) affected the relationship between parental involvement and school success of children and played a mediating role in this relationship. Children of families with higher socioeconomic status made better use of their parents' involvement thanks to their parent's greater cultural capital. Nevertheless, the educational involvement that parents with lower socioeconomic status can demonstrate is important in that it reduces or eliminates the disadvantages that children from poor and lower educated families may encounter and the risk of academic failure. The impact of increased parental involvement on poor and lower SES children was greater, and these children made better use of parental involvement and were able to boost their academic achievement to a certain extent.

Table 2 Academic performance in Mathematics of Grade VI learners' regular class when taken as a whole and when grouped according to sex and socio-economic status.

Category	Standard deviation (SD)	Mean(M)	Description
As a whole Sex	.716	2.96	Good
Male	.614	2.66	Good
Female Socio – Economic Status	.712	3.18	Good
Low	.746	2.95	Good
Middle	.686	2.95	Good
High	.707	3.00	Good

Grade	Scale	Description
95-100	3.20-5.00	Excellent
90-94	3.40-3.19	Very Good
85-89	2.60-3.39	Good
80-84	1.80-2.59	Fair
75-79	1.00-1.79	Poor

T- test result for the significant difference in the level of numeracy skills of Grade VI learners regular class when grouped according to sex.

Table 3.a shows the T – test result for the significant difference in the level of numeracy skills of Grade VI learners' regular class when grouped according to sex. The result revealed that there is no significant difference in the level of numeracy skills when grouped according to sex. t (67) = .544, p = .588. The null hypothesis of no significant difference in the level of numeracy skills when grouped according to sex was accepted. This simply shows that both male and female Grade VI Learners Regular Class have the same level of numeracy skills.

It affirms to the study of Mellyzar, M., Unaida, R., et al. (2022), entitled "Hubungan Self-efficacy dan Kemampuan Literasi Numerasi Siswa: Ditinjau Berdasarkan Gender (The Relationship between Self-efficacy and Student Numeracy Literacy Ability: Reviewed by Gender", the findings demonstrated that (1) there was no significant difference between the self-efficacy of male and female students, (2) there was no significant difference between the literacy and numeracy abilities of males and females, (3) there is a high and positive correlation between self- efficacy and literacy numeracy students, and (4) the coefficient of determination (R 2) of 0.489 explains that the influence of self-efficacy with literacy numeracy students is 48.9%.

Table 3.a T – test result for the significant difference in the level of numeracy skills of Grade VI learners regular class when grouped according to sex.

Group	Degrees of Freedom (df)	t-Statistic	p-Value	Interpretation
Male	67	0.544	0.588	Not Significant
Female	67	0.544	0.588	Not Significant

T- test result for the significant difference in the academic performance of Grade VI learners' regular class when grouped according to sex.

Table 3.b shows the T – test result for the significant difference in the academic performance of grade VI

learners regular class when grouped according to sex.The result revealed that there is no significant difference in the academic performance when grouped according to sex. t (67) = 3.168, p = .062. The null hypothesis of no significant difference in the academic performance when grouped according to sex was accepted. This simply shows that both male and female Grade VI Learners Regular Class have the same academic performance.

It goes along with the study of Taura, U., Lawal, M., et al. (2019), entitled Socio-economic Status, Gender and Academic Performance of Gifted Pupils in Kuka Bulukiya Gifted Primary School, Kano State", the results showed that the socioeconomic status of the parents of gifted pupils varies; there is no statistically significant difference in the academic achievement of male and female gifted pupils; however, there is a statistically significant difference between the academic performance of gifted pupils from low and high socioeconomic status.

Table 3.b T- test result for the significant difference in the academic performance of Grade VI learners' regular class when grouped according to sex.

Group	Degrees of Freedom (df)	t-Statistic	p-Value	Interpretation
Male	67	3.168	0.062	Not Significant
Female	67	3.168	0.062	Not Significant

ANOVA result for the significant difference in the numeracy skills of Grade VI Learners Regular Class when grouped according to socio-economic status.

Table 4.a shows the ANOVA result for the significant difference in the numeracy skills of Grade VI Learners Regular Class when grouped according to socio-economic status. The result revealed that there is no significant difference in the numeracy skills of Grade VI Learners Regular Class when grouped according to socio-economic status, F (3,65) = 4.293, p = .058. The null hypothesis of no significant difference in the level of numeracy skills of Grade VI Learners Regular Class when grouped according to socio-economic status was accepted. This simply showed that the numeracy skills of Grade VI Learners Regular Class with low, middle, and high socio-economic status are the same.

It affirms to the study of Post, K. A. (2022), entitled "Acceleration in Students with Gifted and Talented and Low Socioeconomic Status: Yearly Academic Growth in Grade V Math", the findings revealed no statistically significant difference between Grade V students receiving the accelerated curriculum and Grade IV gifted and talented children receiving the conventional grade-level curriculum.

Based on the pupils' categorization as gifted and talented, there was no statistically significant difference in the mean MAP Growth Conditional Growth Percentiles of Grade V students enrolled in the advanced course. Based on socioeconomic background, there was no statistically significant difference in the mean MAP Growth Conditional Growth Percentiles of Grade V pupils enrolled in the advanced course.

Table 4.*a* ANOVA result for the significant difference in the numeracy skills of Grade VI learner's regular class when grouped according to socio-economic status.

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Statistic (F)	Significance (p-value)
Between Groups	3.078	3	1.026	4.293	0.008
Within Groups	15.531	65	0.239		
Total	**18.609**	**68**			

p> .05, not significant at .05 alpha

ANOVA result for the significant difference in the academic performance of Grade VI learners' regular class when grouped according to socio-economic status.

Table 4.b shows the ANOVA result for the significant difference in the academic performance of Grade VI Learners Regular Class when grouped according to socio-economic status. The result revealed that there is no significant difference in the academic performance of Grade VI Learners Regular Class when grouped according to socio-economic status, F (3,65) = .210, p = .889. The null hypothesis of no significant difference in the level of academic performance of Grade VI Learners Regular Class when grouped according to socio-economic status was accepted. This simply showed that the academic performance of Grade VI Learners Regular Class with low, middle, and high socio-economic status are the same.

It goes along with the study of Fateel, M., Mukallid, S., et al. (2021), entitled "The Interaction between Socioeconomic Status and Preschool Education on Academic Achievement of Elementary School Students", the findings show that the children who received preschool instruction performed better academically than their non-preschool counterparts. There were no significant differences in students' later academic achievement with reference to socioeconomic status, and there was no interaction between preschool education and socioeconomic status on academic achievement.

Sources of Variations	Sum of Squares	Df	Mean Square	F	Sig.
SOCIO- ECONOMIC Between					
STATUS Groups Within	.259	3	.086	.210	.889
Groups	26.698	65	.411		
Total	26.957	68			

p> .05, not significant at .05 alpha

Relationship in the level of numeracy skills and academic performance of Grade VI Learners Regular Class.

Table 5 shows the Pearson –r correlation results for the relationship in the level of numeracy skills and academic performance of Grade VI Learners Regular Class. The result revealed that there is a statistically significant relationship between the level of numeracy skills and academic performance of Grade VI Learners Regular Class, p = .003. Furthermore, the level of numeracy skills and academic performance of Grade VI Learners Regular Class is positively correlated, r (69) = .357. This results simply implied that the "beginning" level of numeracy skills of Grade VI Learners Regular Class is significantly correlated with the "good" academic performance of the respondents.

It affirms to the study of Mijares, B. F., III (2022), entitled "Factors Affecting the Academic Performance of Learners in Mathematics amidst Pandemic", as a result of the correlational analysis, the null hypothesis was accepted and learners' perceived attitudes toward Mathematics, such as (a) motivation and support, (b) anxiety in learning, and (c) self-efficacy in learning Mathematics, were found to have no significant impact on their academic performance. These perceived attitudes received a significant level of greater than 0.05. Only the mentoring techniques that parents offered their children throughout the specified school year, out of all the various forms of parental involvement mentioned in the study, were successful in raising their Math performance. The academic achievement of learners and their parents' mentoring practices are significantly correlated; p= 0.016 (<0.05), which indicates that a p-value less than 0.05 indicates that the association is statistically significant (at the 5% level). The correlation coefficient for this is -0.253, which is negative. In other words: as the Mentoring Strategies increase, Learners' Academic Performance decreases. Concerning the strength of the correlation, - 0.253 can be said to be weak.

Table 5 Relationship in the level of numeracy skills and academic performance of Grade VI Learners Regular Class.

Category	Numeracy		
Academic	N	R	Sig(p)
Performance	69	.357	.003

p< .05, significant at .05 alpha

SUMMARY, CONCLUSIONS AND RECOMMENDATION

Summary

This study was conducted to determine the level of numeracy skills and academic performance in Mathematics of Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School of Lagubang, Barotac Nuevo, Iloilo, from the academic year 2023-2024.

It sought to determine the level of numeracy skills and academic performance in Mathematics of Grade VI Learners Regular Class when taken as a whole and when grouped according to sex and economic status. Likewise, it tried to determine the significant difference in the level of numeracy skills and academic performance in Mathematics when grouped according to sex and socio-economic status, also to determine the significant relationship between numeracy skills and Grade VI Learners Regular Class academic performance.

From the total two hundred eighteen (218) Grade VI Learners Regular Class of Barotac Nuevo Central Elementary School for the S.Y. 2023-2024, a sample of 69 respondents was selected by using "fishbowl" method.

The data were gathered through adapted standardized test questionnaire which asked for the respondents' profile which composed of two parts, Part I was the profile information composed of sex and socio-economic status and Part II was composed of 60 items standardized test questionnaire about the four basic Math operations, fractions and word problems.

The data were analyzed using descriptive statistics of mean and standard deviation. Inferential statistics such as t-test and ANOVA were utilized to measure the relationship between variables. Pearson-r was used to determine the relationship between numeracy and academic performance in Mathematics.

The result revealed that when taken as whole, the level of numeracy skills in Mathematics of Grade VI learners regular class is "beginning", M = 1.70 and SD = .523. For the academic performance in Mathematics of Grade VI learners regular class when taken as a whole is "good", M= 2.96, SD = .716. The respondents have a "weak" level of numeracy skills and academic performance in Mathematics.

Conclusions

In view of the foregoing findings, the researchers' draws the following conclusions:

A strong foundation in numeracy skills at the beginning level is crucial for further mathematical development and academic success. There are areas that requires attention and support to ensure all learners have the opportunity to achieve their full potential in learning Mathematics.

To achieve a good academic performance in Mathematics among learners requires a combination of factors, including a strong foundation in foundational Math concepts, effective teaching practices, parental involvement, a positive classroom environment, and access to quality educational resources.

Both male and female learners have the same abilities and achievements in Mathematics. Therefore, sex is not the primary determinant of numeracy and academic abilities. Socio-economic status does not have a significant impact on numeracy skills and academic performance in Mathematics. Learners from different socio-economic backgrounds have similar abilities and achievements in Mathematics.

There is a discrepancy between the level of numeracy skills and academic performance in Mathematics. Even with a beginning level of numeracy skills, the learners are able to achieve a good academic performance in Mathematics. It may be possible that the learners possess other strengths or skills that contributes to their success in Mathematics despite in the beginning level of numeracy skills.

Recommendations

From the conclusions, the following recommendations are given:

Learners. Encourage learners to practice their numeracy skills regularly through activities such as solving basic Math problems, playing Math games, and build a positive attitude towards Math by celebrating small achievements and positive feedback to enhance or improve their numeracy abilities.

Teachers. Enhance their strategies in teaching and engage pupils in a real-life context during classes and motivate learners to in still to their minds that Math is not hard. Teachers must prioritize teaching the four basic fundamentals for the beginners and provide engaging activities that can catch their attention.

Parents. Look for opportunities to incorporate Math into everyday situations to help them see the practical application of Math in real life. Parents should collaborate with the teacher to reinforce learning strategies at home and consult their children if there are lessons that they find difficult to solve and understand.

Principal. Undergo sending the teachers to attend seminars and programs that are related in enhancing skills in teaching Mathematics subject. The principal must ensure that teachers have access to appropriate instructional resources such as textbooks, manipulative technology tools and supplementary materials.

Barotac Nuevo Central Elementary School. The school must have some learning areas wherein the learners can spend their ample time to learn something about Mathematics. The school must implement structured and comprehensive Math curriculum. Ensure that the school has a well- designed Math curriculum that covers all essential mathematical concepts and skills.

Future Researchers. Deeper understanding and develop effective strategies to improve learners' numeracy skills and academic performance.

REFERENCES

1. Acharya, B. R. (2017). Factors Affecting Difficulties in Learning Mathematics by Mathematics Learners.
2. International Journal of Elementary Education, 6(2), 8. https://doi.org/10.11648/j.ijeedu.20170602.11
3. Achkar, A. M. N. E., Leme, V. B. R., et al. (2019). Life Satisfaction and Academic Performance of Elementary School Students. Psico-USF, 24(2), 323–335. https://doi.org/10.1590/1413-82712 019240209
4. Anam, F., Suteja, J. R., et al. (2020). Improving the Numeracy Mathematics Ability: The Role of Abacus Learning Model. Journal of Physics. Conference Series, 1594(1), 012041. https://doi.org/10.10 88/1742-6596/1594/1/012041
5. Ariyanti, G. & Santoso, F. G. I. (2020). The Effects of Online Mathematics Learning in the Covid-19 Pandemic: A Case Study of Senior High School Students at Madiun City, Indonesia. https://commons.hostos.cuny.edu/mtrj/wpcontent/uploads/sit es/30/2020/10/v12n3-The-Effects-of-Online-Mathematics- Learning.pdf
6. Aunio, P., Korhonen, J., et al. (2021). An Early Numeracy Intervention for First-graders at Risk for Mathematical Learning Difficulties. Early Childhood Research Quarterly, 55, 252–262. https://doi.org/10.1016/j.ecresq.2020.12.002
7. Ayuman-Valdez, E. & Guiab, M. R. (2015). Predictors of Mathematics Performance of Grade VI Pupils in a School District in Northern Philippines. https://www.semanticsch olar.org/paper/PREDICTORS-OF- MATHEMATICS-PERFORMANCE-OF-GRADE-VI-A-Ayuman-Valdez- Guiab/33758ab82f425e024ea3b320da744c3547bbf09a
8. Balala, M. M. A., Areepattamannil, S., et al. (2021). Investigating the Associations of Early Numeracy Activities and Skills with Mathematics Dispositions, Engagement, and Achievement among Fourth Graders in the United Arab Emirates. Large-scale Assessments in Education, 9(1). https://doi.org/10.1186/s40536-021-00106-4
9. Bourdieu, P. (1997). The Concept of Cultural Capital. https://eric.ed.gov/?id=EJ1343324
10. Bronfenbrenner, U. (1986). Ecological System Theory. https://eric.ed.gov/?id=EJ1343324
11. Bryant, D. P., Pfannenstiel, K., et al. (2019). Improving the Mathematics Performance of Second-Grade Students with Mathematics Difficulties through an Early Numeracy Intervention https://www.researchgate.net/publication/335702544

12. Capuno, R. G., Revalde, H. O., et al. (2019). Facilitating Learning Mathematics through the Use of Instructional Media. International Electronic Journal of Mathematics Education, 15(1). https://doi.org/10.29333/iejme/5785
13. Celemin, G. (2023). Enhancing Numeracy Skills of Grade III Students through Authentic Performance Tasks. Journal of Contemporary Educational Research, 7(9), 59–66. https://doi.org/10.26689 /jcer.v7i9.5323
14. Central Foundation (2022). Factors Affecting Numeracy Skills. https://ijariie.com/AdminUploadPdf/Factors_Affecting_Nume r acy_Skills_ijariie18573.pdf
15. Chavez, R. A. (2019). Improving the Numeracy Skills of Grade Five Pupils through Differentiated Instruction in Duhat Elementary School S. Y. 2017-2018. https://ojs.aaresearchindex.com/index.php/AAJMRA/article/ v view/1125Cheung, S. K., Yang, X., et al. (2017). Family and Individual Variables Associated with Young Filipino Children's Numeracy Interest and Competence. British Journal of Developmental Psychology, 36(2), 334–353. https://doi.org/10.1111/bjdp.12222
16. Chiu, M. (2018). Effects of Early Numeracy Activities on Mathematics Achievement and Affect: Parental Value and Child Gender Conditions and Socioeconomic Status Mediation. Eurasia Journal of Mathematics Science and Technology Education, 14(12). https://doi.org/10.29333/ejmste/97191
17. Clerkin, A. & Gilligan, K. A. (2018). Pre-school Numeracy Play as a Predictor of Children's Attitudes towards Mathematics at Age 10. Journal of Early Childhood Research, 16(3), 319–334. https://doi.org/10.1177/1476718x18762238
18. Cueto, A. (2019). Difficulties Encountered by the Grade I Pupils in Mathematics. https://www.google.com/search?q=Arsenia+Cueto+entitled+%E 2%80%9CDifficulties+Encountered+by+the+Grade+1+Pupils+in+M a thematic
19. Díaz-Morales, J. F. & Escribano, C. (2015). Social Jetlag, Academic Achievement and Cognitive Performance: Understanding Gender/SexDifferences https://www.researchg ate.net/publication/27 8043681_Social_jetlag_academic_achievement_and_cognitive_performance_Und e rstanding_gendersex_differences
20. Eason (2018). Pupils Numeracy Skills and Mathematics Performancehttps://www.res earchgate.net/publication/373110905_Pupils_Numeracy_Skills_and_Mathematics_Performance
21. Emelda, M. (2016). Difference Between Pupil and Student Between Similar Terms and Objects. http://www.differencebetween.net/language/wordslanguage/di efference-bet ween-pupil-and-student/ Fateel, M., Mukallid, S., et al. (2021). The Interaction between Socioeconomic Status and Preschool Education on Academic Achievement of Elementary School Students. International Education Studies, 14(8), 60. https://doi.org/10.5539/ies.v14n8p60
22. Fernandez, A. D. & Benavides, N. G. (2023). Numeracy Skills Performance of Grade VI Pupils in Modular Distance Learning https://uijrt.com/paper/numeracy-skills-performance-grade- 6-pupils-modular-distance-learning
23. Girard, C., Bastelica, T., et al. (2021). The Relation between Home Numeracy Practices and a Variety of Math Skills in Elementary School Children. PloS One, 16(9), e0255400. https://doi.o rg/10.1371/journal.pone.0255400
24. Guhl, P. (2019). The Impact of Early Math and Numeracy Skills on Academic Achievement in Elementary School https://nwcommons.nwciowa.edu/education_masters/155/
25. Johnson, B., Fyfe, E., et al. (2016). Early Math Trajectories: Low-Income Children's Mathematics Knowledge from Ages 4 to 11 https://pubmed.ncbi.nlm.nih.gov/27921305/
26. King, Y. & Purpura, D. (2020). Direct Numeracy Activities and Early Math Skills: Math Language as a Mediator https://www.researchgate.net/publication/346317132_Direct_ numeracy_activities_a nd_ early_math_skills_Math_language_as _a_mediator
27. Kiss, A., Nelson, G., et al. (2019). Predicting Third-Grade Mathematics Achievement: A Longitudinal Investigation of the Role of Early Numeracy Skills https://www.researchgate .net/publication/33 1018522_Predicting_ThirdGrade_Mathematics_Achievement_A_Longitudinal_Invstigation_of_the_R ole_of_Early_Numeracy_Skills
28. Kolb, D. (1984). Experiential Learning Theory https://www.scribd.com/document/641341204/The-Numeracy-of- Selected-Grade-Six-Learners-in-Gulod-Malaya-Elementary- School-Basis-for-Nu m e r I cal-Intervention-Program

29. Kurmaniak (2021). Factors Affecting Numeracy Skills http://ijariie.com/AdminUploadPdf/Factors_Affecting_Numer a cy_Skills_ijariie18573.pdf
30. Latiban, J., Mendez, S., et al. (2022). Factors Affecting Numeracy Skills https://ijariie.com/AdminUploadPdf/Factors_Affecting_Nume r acy_Skills_ijariie18573.pdf
31. Magtolis, D. A., III (2023). Effectiveness of Project Renrich in Improving the Numeracy Skills of Grade V Learners https://www.scribd.com/document/659874932/
32. Mellyzar, M., Unaida, R., et al. (2022). Hubungan Self- efficacy dan Kemampuan Literasi Numerasi Siswa https://www.researchgate.net/publication/371512795_Hubung a _Selfefficacy_dan_Kemampuan_Literasi_Numerasi_Siswa_Diti n jau_Berdasarkan_Gender
33. Mijares, B. F., III (2022). Factors Affecting the Academic Performance of Learners in Mathematics amidst Pandemic https://philarchive.org/archive/MIJFAT-2
34. Muskens, M., Frankenhuis, W. E., et al. (2024). Math Items about Real-World Content Lower Test-Scores of Students from Families with Low Socioeconomic Status https://www.nature.com/articles/s41539-024-00228-8
35. Nahdi, D., Cahyaningsih, U., et al. (2023). Mathematics Interest and Reading Comprehension as Correlates of Elementary Students' Mathematics Problem-Solving Skills https://www. researchgate.net/publication/376197736
36. Nalangan, J. V. (2019). Problems Affecting the Numeracy Skills among Grade Four Learners of Selected Schools in Malapatan 1 District https://ojs.aaresearchindex.com/index.php/AAJMRA/article/ view/11103
37. Narad & Abdullah (2016). Defining And Measuring Academic Performance of Hei Students a Critical Review.
38. https://turcomat.org/index.php/turkbilmat/article/downloa d /6952/5701/12729
39. Ofsted (2018), Early Years Curriculum Report – Accessible https://assets.publishing .service.gov.uk/media/5a82d03040 f 0b6230269cd73/28933
40. Penderson, A., Mononen, R., et al. (2022). Improving Numeracy Skills in First Graders with Low Performance in Early Numeracy: A Randomized Controlled Trial https://doi.org/10.1177/07419325221102537
41. Perez, P. P. (2023). Effectiveness on the Utilization of Numeracy Station Materials in Improving the Performance of Grade I Pupils in Math https://www.ijams-bbp.net/archive/vol-3-issue-2-February/effectiveness-on-the-utilization-of-numeracy- station-materials-in-improving-the-performance-of-grade-1- pupils-in-math/
42. Piaget, J. (Early 1950's). Developmental Constructivism Theory https://www.scribd.com /document/641341204/The-Numeracy- of-Selected-Grade-Six-Learners-in-Gulod-Malaya-Elementary-School-Basis-for-Numerical-Intervention-Program
43. Pitogo, S. & Oco, R. (2023). Pupils' Numeracy Skills and Mathematics Performance https://www.researchgate.net/publication/373110905_Pupils' _Numeracy_Skills_and_Mathematics_Performance
44. Post, K. A. (2022). Acceleration in Students with Gifted and Talented and Low Socioeconomic Status: Yearly Academic Growth in Grade V Math https://books.google.com/books/a bout/Acceleration_in_Stud e nts_with_Gifted_and.html?id=9sP0zwEACAAJ
45. Ridwan, M., Misbahudholam, M., et al. (2023). Improve the Numeracy Skills of Fifth-Grade Students Through Self- Efficacy in Elementary Schools https://www.researchgate.net/publica tion/375919085_Improv _The_Numeracy_Skills_of_Fifth-Grade_Students_Through_Self-Efficacy_in_Elementary_Schools
46. Salihu, L. (2018). Mathematics Skills of Kosovar Primary School Children: A Special View on Children with Mathematical Learning Difficulties https://www.researchgate.net/publ ication/324200719Mathemtics_Skills_of_Kosovar_Primary_School_
47. Children_A_Special_ View_on_Children_with_Mathematical_Learning_Difficulties Seitz, M. & Weinert, S. (2022). Numeracy Skills in Young Children as Predictors of Mathematical Competence https://bpspsychub.onlinelibrary.wiley.com/doi/abs/10.1111 /bjdp.12408
48. Sengonul, T. (2022). A Review of the Relationship between Parental Involvement and Children's Academic Achievement and the Role of Family Socioeconomic Status in This Relationship https://eric.ed.gov/?id=EJ1343324

49. Stacy, S., Cartwright, M., et al. (2017). Addressing the Math-Practice Gap in Elementary School: Are Tablets a Feasible Tool for Informal Math Practice; Morrison and McLafferty, 2018, Bridging the Gaps in Mathematics and Numeracy: Supporting Schools in Practitioner Research. https://www.frontiersin.org/journals/psychology/articles/1 0.3389/fpsyg.2017.00179/full
50. Swain, B., Bhabani, S., et al. (2023). Learning Difficulties of Elementary School Students in Mathematics https://www.researchgate.net/publication/371465649 _Learni n g_Difficulties _of_ Elementary_School_Students_in_Mathemati c s
51. Tanghal, J. S. & Tanghal, A. B. (2022). Numeracy Level of Elementary Students: Factors and Effects https://visnav.in/ijabs/article/numeracy-level-of- elementary-students-factors-and-effects/
52. Taura, U., Lawal, M., et al. (2019). Socio-economic Status, Gender and Academic Performance of Gifted Pupils in Kuka Bulukiya Gifted Primary School, Kano State https://ww w.academia.edu/44948352/SOCIO_ECONOMIC_STATUS_G E
53. NDER_AND_ACADEMIC_PERFORMANCE_OF_GIFTED_PUPILS_IN_KUKA_BUL UKIYA_GIFTED_PRIMARY_SCHOOL_KANO_STATE
54. Toral-Guzman, M. (2023). Attitudes and Academic Performance of Grade VI Students in Learning Mathematics: Conceptual Understanding in the Context of Education https://www.researchgate.net/publication/367097936_Attitu d Es_and_Academic _Performance_ of_Grade_6_Students_in_Learni n g_Mathematics_Conceptual_Understanding_in_the_Context_of_ E ducation
55. Victorian Curriculum and Assessment Authority (2017). Factors Affecting Numeracy Skills http://ijariie.com/AdminUploadPdf/Factors_Affecting_Numer a cy_Skills_ijariie18573.pdf
56. Yeh, C. Y. C., Cheng, H. N. H., et al. (2019). Enhancing Achievement and Interest in Mathematics Learning through Math-Island https://www.researchgate.net/publication/331719678_Enhanci ng_achievement_and_interest_in_mathematics_learning_throug h_Math-Island
57. York, T. Gibson, C. E., et al. (2015). Defining and Measuring Academic Success. https://www.researchgate.net/publication/278305241_Defini n g_and_Measuring_Academic_Success https://docs.google.com/documented/d0b0d4eXfN5MXRdG5tMmZMSEk5
58. Unc/mobilebasic?resourcekey=0-a6jJQHn0wvt5AtCDw_kEw https://images.app.goo.gl/r8UMd3Wpk2Y8tkSF9 https://www.researchgate.net/figure/Gross-Monthly-Income- Salary_tbl3_321331451 https://www.researchgate.net/publication/334249071_Comparing_ the_Effect_of_Explicit_Mathematics_Instruction_with_Rigor o
59. us_Mathematical_Thinking_Approach_and_5E's_Instructional_Model_on_Students'_Mathematics_Ac hievement_Comparing_the_E f fect_of_Explicit