Contextualized Numeracy Task, Home Learning Support, and Performance of Grade 7 Learners in Mathematics

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ABSTRACT

This study investigated the relationship between the contextualized numeracy tasks and home learning support on the mathematics performance of Grade 7 learners during school year 2025–2026 in a public secondary school in the Negros Island Region. A quantitative correlational research design was employed, with data collected through a structured questionnaire measuring learners' engagement in contextualized numeracy tasks and the level of home learning support. The numeracy tasks were based on the REACT framework—Relating, Experiencing, Applying, Cooperating, and Transferring—while home support was assessed through Supportive Parental Involvement (SPI) and Intrusive Parental Involvement (IPI). Results showed that learners exhibited a high level of engagement across all REACT dimensions and received a high level of home support. Supportive Parental Homework Involvement was rated high, while the reverse-scored Intrusive Parental Homework Involvement was rated moderate. Learners' mathematics performance was very satisfactory. Statistical analysis revealed no significant relationship between learners' engagement in contextualized numeracy tasks and mathematics performance. However, a significant relationship was found between home support and mathematics performance.

Keywords: Mathematics, contextualized numeracy task, home learning support, mathematics performance, learners

INTRODUCTION

In recent years, improving students' mathematical performance has become a major concern in education, particularly at the junior high school level where learners encounter more abstract concepts. Recent assessments highlight persistent gaps in mathematical proficiency, indicating the need for more effective instructional strategies (OECD, 2022; DepEd, 2023).

Mathematics plays an essential role in developing problem-solving and decision-making skills; however, many Grade 7 learners struggle with understanding concepts when lessons are not connected to real-life situations. Contextualized numeracy tasks help address this issue by linking mathematical concepts to learners' everyday experiences, improving both engagement and understanding.

Another important factor in learners' performance is home learning support, which includes parental guidance, availability of learning resources, and study habits. Studies show that supportive home environments enhance learners' motivation and academic achievement (Wang et al., 2024).

In the Philippine context, contextualization and localization are emphasized in the K–12 curriculum to promote meaningful learning. However, challenges such as limited resources and inconsistent home support remain.

Thus, this study examines the relationship between contextualized numeracy tasks, home learning support, and mathematics performance of Grade 7 learners.

METHODOLOGY

Research Design

The study utilized a descriptive correlational research design. This design is appropriate for describing existing

conditions and examining relationships among variables without manipulating them. Descriptive research focuses on describing existing conditions, whereas correlational research examines whether relationships exist among variables and the strength of those relationships. According to Barooah (2025), descriptive correlational research is used to describe variables and examine relationships among them without manipulating the study conditions.

Descriptive correlational research is a non-experimental research design that aims to describe existing conditions while examining the relationships between variables. It is appropriate for the present study as it investigates the relationship among contextualized numeracy tasks, home learning support, and the mathematics performance of Grade 7 learners.

Subject and Respondents of the Study

The subject and the respondents of this study were Grade 7 learners enrolled at a public high during the school year 2025–2026, with a sample of 245 out of the total population of 628 learners. The respondents were selected using stratified random sampling to ensure adequate representation across different learner groups. The assessment of contextualized numeracy tasks was guided by the REACT framework—Relating, Experiencing, Applying, Cooperating, and Transferring—which examines how learners connect mathematical ideas to real-life contexts, engage in meaningful activities, apply concepts to practical situations, collaborate with peers, and transfer learned skills to new tasks. Additionally, data on home learning support were collected to describe the nature and extent of academic assistance, guidance, and learning conditions available to learners within their household environments.

Population and Sample Size

A total of 628 Grade 7 learners serves as the study population. Yamane's Formula was applied using a 5% margin of error to estimate the required sample size, resulting in a sample of 245 learners. Based on this computation, all 245 learners were included as respondents. These learners participated in the implementation of the contextualized numeracy tasks and in the assessment of the home learning support sample size, as shown below.

Formula: $n = \frac{N}{1 + Ne^2}$

Where: N = population size

e = margin of error

e = 0.05

$$n = \frac{628}{1 + 628(.05)^2}$$

$$n = \frac{628}{2.57}$$

n = 244.35 or 245

Sampling Technique

Based on the formulated statement of the problem, stratified sampling was employed in selecting the respondents of the study. The total sample size of 245 Grade 7 learners was first estimated using Yamane's Formula, after which proportional allocation was applied to identify the number of respondents to be drawn from each section. The proportional allocation formula was used to ensure that the sample taken from each section (nh) was proportional to the actual section population (Nh) relative to the total Grade 7 population (628 learners) and the overall sample size (245 learners). This method ensured that larger sections contributed a greater number of respondents, while smaller sections contributed fewer. As presented in Table 1, sections with populations ranging from 36 to 39 learners contributed 14 to 15 respondents, whereas smaller sections such as Section G and

Section N contributed 10 respondents each. Following the computation of proportional samples, simple random sampling using the lottery method was conducted within each stratum (section) to give every learner an equal chance of being selected. Through this systematic process, the final sample of 245 Grade 7 learners was obtained, ensuring fair and accurate representation of all sections in the study. The proportional allocation used to compute the number of respondents per section was based on the following formula:

Formula: $n_h = \frac{N_h}{N} \, x \, n$

where,

n_h = the sample size per section
N_h= the population size per section
n = the sample size
N = the population size

Table 1, Distribution of Respondents.

Section	N	n
A	36	14
B	38	15
C	38	15
D	31	12
E	38	15
F	38	15
G	24	10
H	37	14
I	37	14
J	38	15
K	35	14
L	37	14
M	39	15
N	26	10
O	34	13
P	35	14
Q	34	13
R	33	13
Total	628	245

Data Gathering Instrument

The primary instrument used in this study was a structured questionnaire designed to collect information on learners' demographic characteristics, their experiences with contextualized numeracy tasks, and the type of home learning support they receive. The questionnaire consisted of three main parts. Part I gathered the demographic profile of the Grade 7 learners, including sex, type of school graduated from, parent or guardian's educational attainment, and the individual who typically provides homework assistance. These details enabled the researcher to describe the respondents comprehensively and contextualize the variables being examined.

Part II assessed learners' experiences with contextualized numeracy tasks using items based on the REACT instructional framework, which includes Relating (5 items), Experiencing (5 items), Applying (5 items), Cooperating (5 items), and Transferring (5 items). The REACT framework, originally developed and disseminated through contextual learning research (CORD, 2021), has been shown to enhance mathematical problem-solving and engagement in various studies, including those by Cahyani & Suarsana (2020) and Wulandari et al. (2024). The Relating component measured how well lessons connected mathematical concepts to real-life and community-based situations that were familiar to the learners. Experiencing focused on the use of hands-on, activity-based, and exploratory learning tasks that allow learners to interact with mathematical ideas concretely. Applying evaluated whether learners were able to use mathematical concepts to solve practical problems encountered inside and outside the classroom. Cooperating assessed the degree to which mathematics tasks encouraged peer collaboration, group discussions, and shared problem-solving. Finally, transferring measured learners' ability to apply previously learned mathematical concepts to new, unfamiliar, or extended contexts, reflecting higher-order thinking and flexible understanding. All items under the REACT framework were answered using a 5-point Likert scale, with options ranging from (1) Strongly Disagree to (5) Strongly Agree, allowing learners to indicate the extent to which they experienced each REACT dimension.

Part III measured home learning support using the Supportive Parental Involvement (SPI) and Intrusive Parental Involvement (IPI) scales, each consisting of five (5) items. These scales were adapted from the meta-analysis of parental homework involvement conducted by Jiang, Shi, Zheng, and Mao (2023), which found that supportive parental involvement is positively related to mathematics achievement, whereas intrusive parental involvement is negatively related to mathematics achievement. All items under both the SPI and IPI scales were answered using a 5-point Likert scale, with response options ranging from (1) Strongly Disagree to (5) Strongly Agree, allowing learners to indicate the extent of support they experience at home. The SPI dimension captured positive and autonomy-supportive parental behaviors, such as providing encouragement, offering constructive guidance, creating a structured study environment, and motivating learners to attempt mathematics tasks independently before offering help. The IPI dimension assessed controlling and negative parental behaviors, such as applying pressure for high grades, criticizing mistakes, displaying frustration during homework sessions, or completing the learner's work for them. These behaviors helped identify whether home learning support was facilitative or restrictive. Items in both SPI and IPI were also rated using the same 5-point Likert scale, ensuring consistency in the measurement of the two dimensions. The negatively worded Intrusive Parental Homework Involvement (IPI) items were reverse-scored prior to analysis so that higher scores on all home support indicators consistently reflected more favorable home learning support conditions. Consequently, higher scores on the IPI scale indicate lower levels of intrusive parental involvement, whereas lower scores indicate a greater occurrence of controlling, pressuring, and critical parental behaviors. The Intrusive Parental Homework Involvement (IPI) indicators consisted of negatively stated items describing controlling, pressuring, and critical parental behaviors of parents toward learners' mathematics homework. To ensure consistency in the interpretation of home learning support, the negatively worded IPI items were reverse-scored prior to analysis so that higher scores on all home support indicators reflected more favorable home learning support conditions. Consequently, higher scores on the IPI scale indicate lower levels of intrusive parental involvement, whereas lower scores indicate a greater occurrence of controlling, pressuring, and critical parental behaviors.

The entire instrument was adopted from previously validated and standardized sources, including REACT-based studies and the SPI/IPI scales drawn from a 2023 meta-analysis on parental involvement and mathematics achievement. Because the original instruments were already standardized and supported by strong empirical evidence of validity and reliability, and because expert validation of the adapted version confirmed clarity and suitability, additional validity and reliability testing was no longer necessary for this study.

Data Analyses

The data collected in this study would be processed, analyzed, and interpreted using appropriate statistical tools to address the research questions on home learning support, contextualized numeracy tasks, and the performance of Grade 7 learners in Mathematics.

To describe the demographic profile of Grade 7 learners in terms of sex, type of elementary school graduated from, and parents' educational attainment, the data gathered for this problem were analyzed using descriptive

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statistics. Frequency counts were used to identify the number of respondents belonging to each category, while percentages were computed to show the proportion each group contributed to the total sample. This approach provided a clear and systematic description of the learners' demographic characteristics. The computations were carried out using the formulas below:

Frequency (the formula is as follows):

$$f_i = n_i$$

Percentage (using the formula below):

$$\%_i = \frac{n_i}{N} \times 100$$

To describe the level of learners' engagement with the contextualized numeracy tasks in Grade 7 Mathematics, the data gathered for this problem were analyzed using descriptive statistics. The level of learners' engagement was measured using an engagement scale consisting of several indicators, each rated according to the degree to which learners demonstrated participation, interest, persistence, and involvement in the contextualized numeracy tasks. To describe the overall level of engagement, the mean for each indicator and the composite mean were computed to represent the general level of engagement of the learners. These statistical measures provided a clear description of learners' responses to the contextualized numeracy tasks. The computation of the mean and the interpretation of engagement levels were carried out using the formulas below:

Mean:

$$\bar{x} = \frac{\sum X}{N}$$

Where,

$\bar{x}$ – Mean/Composite mean representing the overall level of engagement
$\sum X$ – Sum of all scores
n – Sample size

Below is the formula for standard deviation.

$$s = \sqrt{\frac{\sum (X - \bar{x})^2}{n-1}}$$

Where,

s - Standard deviation

X – The value in the data distribution

$\bar{x}$ - Mean/Composite mean representing the overall level of engagement

n – sample size

To further interpret the results, the scale on the next page was used.

Scale	Description	Mean Score Range	Interpretation	Verbal Description
5	Strongly Agree	4.21-5.00	Very High	Learners demonstrate exceptional engagement; they consistently participate actively, show strong interest, and respond positively to the contextualized numeracy tasks.
4	Agree	3.41-4.20	High	Learners frequently engage with the tasks, exhibit sustained interest, and actively contribute during activities.

3	Neither Agree nor Disagree	2.61-3.40	Moderate	Learners show an acceptable level of engagement, participating when expected but with occasional inconsistency.
2	Disagree	1.81-2.60	Low	Learners rarely engage with the tasks and show limited interest or involvement.
1	Strongly Disagree	1.00-1.80	Very Low	Learners demonstrate minimal to no engagement, showing little participation, interest, or effort in completing the tasks.

To describe the level of home support received by the Grade 7 learners, the data for this problem were analyzed using descriptive statistics. The level of home support was assessed through a set of indicators describing the assistance available to learners at home, such as guidance in accomplishing schoolwork, monitoring of study time, provision of learning materials, and encouragement from family members. Each item was rated using a Likert-type scale, allowing the computation of means to describe the level of support provided by the household. The mean for each indicator and the composite mean for overall home support were computed to describe the extent to which learners receive assistance at home.

Scale	Description	Mean Score Range	Interpretation	Verbal Description
5	Strongly Agree	4.21-5.00	Very High	Learners received a very strong and consistent support at home.
4	Agree	3.41-4.20	High	Learners frequently receive support, guidance, and encouragement.
3	Neither Agree nor Disagree	2.61-3.40	Moderate	Learners receive some level of support, but not consistently.
2	Disagree	1.81-2.60	Low	Learners rarely receive support and guidance from home.
1	Strongly Disagree	1.00-1.80	Very Low	Learners receive little to no support at home.

To describe the level of academic performance of Grade 7 learners in Mathematics, descriptive statistics were used. The mean and standard deviation were computed to describe the overall level of performance of the learners based on their mathematics grades. The results were interpreted using the DepEd grading scale to classify the level of academic performance.

Performance was interpreted using the DepEd grading scale as follows: (based on DepEd Order 8 series of 2015).

Grade Score Range	Interpretation
90-100	Outstanding
85-89	Very Satisfactory
80-84	Satisfactory
75-79	Fairly satisfactory
Below 75	Did not Meet Expectation

To examine whether a significant relationship exists between learners' engagement with contextualized numeracy tasks and their performance in mathematics, the Pearson Product-Moment Correlation Coefficient (Pearson r) was used. This statistical technique measures the strength and direction of the association between two continuous variables. A positive value of r indicates that higher engagement in contextualized numeracy

tasks tends to be associated with higher performance in mathematics, while a negative value indicates an inverse relationship.

The significance of the correlation was tested using the computed p-value at the 0.05 level of significance. If the p-value is less than 0.05, the relationship is considered statistically significant; otherwise, it is not statistically significant.

The computation of the correlation coefficient and its level of significance was carried out using the formulas below:

$$r = \frac{n(\Sigma xy)-(\Sigma x)(\Sigma y)}{\sqrt{[n\sum x^2-(\sum x)^2][n\sum y^2-(\sum y)^2]}}$$

where:

x = Scores on home learning support

y = Scores on contextualized numeracy task performance

n = Number of respondents

Interpretation of correlation coefficients:

r Value	Strength of Relationship
0.00 – 0.19	Very Weak
0.20 – 0.39	Weak
0.40 – 0.59	Moderate
0.60 – 0.79	Strong
0.80 – 1.00	Very Strong

To examine whether a significant relationship exists between the level of home support received by the learners and their level of performance in mathematics, the Pearson Product-Moment Correlation Coefficient (Pearson r) was used.

RESULTS AND DISCUSSION

This chapter presents the analysis, interpretation, and discussion of the data gathered in this study. The findings are organized according to the sequence of the statements of the problem. Specifically, the chapter presents the demographic profile of the respondents, the level of learners' engagement with contextualized numeracy tasks, the level of home support received, and the level of performance of Grade 7 learners in mathematics. Furthermore, it examines the relationships between learners' engagement and performance, as well as between the level of home support and learners' performance in mathematics. The results are presented using appropriate statistical tools and are interpreted based on established criteria to provide a clear understanding of the outcomes of the study.

Frequency and Percent Distribution of the Demographic Profile of Respondents

The table on the next page presents the frequency and percentage distribution of the demographic profile of Grade 7 learners.

Table 1. Frequency and Percent Distribution of the Demographic Profile of Respondents.

Profile	Category	f	%
Sex			
	Male	94	38.37
	Female	151	61.63
	Total	245	100.00
Type of School Graduated	Public	240	97.96
	Private	5	2.04
	Total	245	100.00
Parent Highest Educational Attainment			
	Elementary Graduate	17	6.94
	High School Graduate	137	55.92
	College Graduate	76	31.02
	Post Graduate	7	2.86
	Did Not Finish Schooling	8	3.27
	Total	245	100.00

Table 1 presents the frequency and percentage distribution of the respondents' demographic profile.

In terms of sex, the majority of the respondents are female, comprising 151 or 61.63%, while 94 or 38.37% are male. This indicates that female learners represent a larger proportion of the sample.

As to the type of school graduated from, most of the respondents came from public schools, accounting for 240 or 97.96%, whereas only 5 or 2.04% graduated from private schools. This shows that the respondents are predominantly from public school backgrounds.

Regarding parents' highest educational attainment, the majority are high school graduates, representing 137 or 55.92%. This is followed by college graduates at 76 or 31.02%, elementary graduates at 17 or 6.94%, those who did not finish schooling at 8 or 3.27%, and postgraduate level at 7 or 2.86%. These results indicate that most learners come from families where parents have attained at least a secondary level of education.

Level of Performance in Mathematics according to Profile

The table below presents the level of performance in mathematics according to profile of Grade 7 learners.

Table 2. Level of Performance in Mathematics according to Profile.

Profile	Category	Mean	SD	Interpretation
Sex				
	Male	85.33	5.52	Very Satisfactory
	Female	86.00	4.02	Very Satisfactory

Type of School Graduated				
	Public	85.70	4.54	Very Satisfactory
	Private	87.80	9.07	Very Satisfactory
Parent Highest Educational Attainment				
	Elementary Graduate	82.65	4.64	Satisfactory
	High School Graduate	85.23	4.28	Very Satisfactory
	College Graduate	87.28	4.61	Very Satisfactory
	Post Graduate	87.43	6.70	Very Satisfactory
	Did Not Finish Schooling	85.00	5.10	Very Satisfactory

Table 2 presents the level of performance in mathematics according to the respondents' profile.

In terms of sex, male learners obtained a mean score of 85.33 with a standard deviation of 5.52, while female learners obtained a slightly higher mean score of 86.00 with a standard deviation of 4.02. Both groups are interpreted as having a very satisfactory level of performance.

As to the type of school graduated from, learners from public schools obtained a mean score of 85.70 (SD = 4.54), while those from private schools obtained a higher mean score of 87.80 (SD = 9.07). Both groups are also interpreted as having a very satisfactory level of performance.

With respect to parents' highest educational attainment, learners whose parents are elementary graduates obtained a mean score of 82.65 (SD = 4.64), interpreted as satisfactory. Meanwhile, those whose parents are high school graduates (M = 85.23, SD = 4.28), college graduates (M = 87.28, SD = 4.61), postgraduates (M = 87.43, SD = 6.70), and those who did not finish schooling (M = 85.00, SD = 5.10) are all interpreted as having a very satisfactory level of performance.

These results show that learners across different profile categories generally demonstrate a satisfactory to very satisfactory level of performance in mathematics. This is consistent with the findings of previous studies which indicate that variations in academic performance across demographic characteristics are typically described as differences rather than direct determinants of achievement.

Level of Learners' Engagement with the Contextualized Numeracy Tasks

The table below presents the level of engagement with the contextualized numeracy tasks in terms of relating, experiencing, applying, cooperating, and transferring of Grade 7 learners.

Table 3. Level of Learners' Engagement with the Contextualized Numeracy Tasks.

Statements	Mean	SD	Interpretation
Relating	**4.01**	**0.61**	**High**
1. Math lessons are connected to real-life situations familiar to me.	4.16	0.81	High
2. I can relate math problems to my daily experiences.	3.87	0.96	High
3. I can connect math lessons to situations in my community like budgeting, farming, or local business.	4.21	0.92	Very High

4. I see how math concepts apply when making decisions in everyday life like shopping, cooking, or planning events.	4.13	0.81	High
5. I can link math problems to real-world issues like environmental concerns or social activities.	3.68	1.05	High
Experiencing	**4.06**	**0.57**	**High**
6. I learn math through hands-on or activity-based tasks.	4.15	0.79	High
7. Math activities allow me to explore and discover solutions.	4.38	0.75	Very High
8. Using objects or pictures helps me understand math better.	3.96	1.00	High
9. I learn math more easily when I try it out in real-life situations	3.83	0.93	High
10. Doing activities makes it easier for me to connect math to everyday life.	4.01	0.93	High
Applying	**4.03**	**0.56**	**High**
11. I can apply math concepts to solve real-world problems.	4.01	0.61	High
12. Math tasks help me use what I learned in practical situations.	3.84	0.97	High
13. The tasks allow me to practice math skills meaningfully.	4.15	0.78	High
14. I can use math concepts to answer real-life questions.	4.21	0.77	Very High
15. The lessons help me apply math in daily life.	3.92	0.86	High
Cooperating	**4.04**	**0.86**	**High**
16. I work with classmates to solve math problems.	4.02	0.74	High
17. Group activities help me understand math lessons better.	3.98	1.09	High
18. I share ideas with others during math activities.	4.17	1.00	High
19. I listen to my classmates' ideas when solving problems.	3.88	1.04	High
20. Working with others helps me solve difficult math problems.	4.12	1.02	High
Transferring	**3.96**	**1.12**	**High**
21. I can use math skills learned in class in new situations.	3.86	0.74	High
22. I can transfer math strategies from one problem to another.	3.93	0.88	High
23. I can solve different types of math problems using what I learned.	4.00	0.90	High
24. I use previous math lessons to understand new topics.	3.95	1.02	High
25. I can transfer math skills from one lesson to another.	3.71	1.04	High
Contextualized numeracy Task Overall Mean	**4.00**	**0.50**	**High**

Legend: (4.21 – 5.00)-Very High; (3.41 – 4.20)-High; (2.61 – 3.40)-Moderate; (1.81 – 2.60)-Low; (1.00 – 1.80)-Very Low

As shown in Table 3, the overall mean of 4.00 with a standard deviation of 0.50 is interpreted as high, indicating that learners frequently engage with the contextualized numeracy tasks, exhibit sustained interest, and actively contribute during activities. This reflects the learners' consistent participation and involvement in the learning process.

In terms of specific dimensions, relating obtained a mean of 4.01, interpreted as high. This indicates that learners frequently connect mathematical concepts to real-life situations. Notably, the item "I can connect math lessons to situations in my community" obtained a very high mean of 4.21, showing that learners demonstrate strong ability to relate mathematical ideas to their daily experiences.

Similarly, the experiencing dimension recorded a mean of 4.06, also interpreted as high. The highest-rated indicator, "Math activities allow me to explore and discover solutions," obtained a very high mean of 4.38, indicating that learners demonstrate exceptional engagement in exploratory and activity-based tasks.

For the applying dimension, a mean of 4.03 was obtained, interpreted as high. The item "I can use math concepts to answer real-life questions" achieved a very high mean of 4.21, indicating that learners are highly engaged in applying mathematical knowledge to practical situations.

The cooperating dimension yielded a mean of 4.04, interpreted as high. This indicates that learners frequently participate in collaborative activities and show active involvement when working with peers.

Lastly, the transferring dimension obtained a mean of 3.96, which is still interpreted as high, although slightly lower than the other dimensions. This indicates that learners demonstrate engagement in applying learned skills to new situations, but with slightly less consistency compared to other areas.

Among the five dimensions of contextualized numeracy tasks, experiencing obtained the highest mean score of 4.06, interpreted as high. This indicates that learners frequently engage in hands-on and activity-based learning experiences. The high rating may be attributed to learners' preference for interactive and experiential activities, which allow them to explore concepts, discover solutions, and participate directly in the learning process. Such activities make learning more meaningful and relatable, thereby encouraging sustained participation and interest.

On the other hand, transferring obtained the lowest mean score of 3.96, although it is still interpreted as high. This indicates that learners frequently engage in applying previously learned mathematical concepts to new situations, but less frequently than in the other dimensions. The lower rating may be due to the greater cognitive demand required to transfer learned knowledge and skills from one context to another. Applying mathematical concepts in unfamiliar situations often requires deeper understanding, higher-order thinking, and more practice.

Overall, the findings indicate that learners demonstrate a high level of engagement across all dimensions of the contextualized numeracy tasks, reflecting sustained participation, interest, and involvement in mathematics activities.

The findings are supported by existing literature which emphasizes that contextualized numeracy tasks enhance learners' engagement by making mathematics meaningful and relevant. Studies have shown that contextualized instruction improves learners' participation, motivation, and understanding when mathematical concepts are connected to real-life situations. For instance, Mahmuti et al. (2025) found that learners exposed to contextualized teaching demonstrated increased engagement and more positive attitudes toward mathematics learning. Similarly, Sabido et al. (2026) reported that contextualized learning strategies significantly improve learner engagement, which contributes to better contextualized numeracy skills.

Furthermore, the use of the REACT framework—relating, experiencing, applying, cooperating, and transferring—has been shown to promote active learning and meaningful engagement. Cahyani et al. (2021) revealed that REACT-based instruction enhances problem-solving skills through active participation, while Nurzannah et al. (2021) emphasized that experiential and hands-on activities improve learners' understanding and involvement.

Level of Home Support Received

The table below presents the level of home support received by the Grade 7 learners in terms of supportive parental homework involvement and intrusive parental homework involvement.

Table 4. Level of Home Support Received.

Statements	Mean	SD	Interpretation
Supportive Parental Homework Involvement (SPI).	**3.97**	**0.76**	**High**
1. My parents encourage me when I work on my mathematics homework.	4.00	1.05	High
2. My parent helps me understand math problems when I have difficulty.	3.93	1.09	High
3. My parent provides structure (e.g., time/space) for me to work on my math homework.	3.85	1.08	High
4. My parent supports me in trying to solve math tasks on my own first before helping.	4.01	1.02	High
5. My parent supports me in trying to solve math tasks on my own first before helping.	4.04	1.02	High
Intrusive Parental Homework Involvement (IPI)	**3.36**	**1.13**	**Moderate**
6. My parent pressures me to get high grades in math.	3.34	1.41	Moderate
7. My parent becomes upset when I make mistakes in my math homework.	3.36	1.38	Moderate
8. My parent takes over my mathematics homework instead of letting me try on my own.	3.47	1.39	High
9. My parents criticize me when I struggle with math tasks.	3.17	1.39	Moderate
10. My parents insist that I complete my math homework their way, not mine.	3.44	1.36	High
Home Support Received Overall Mean	**3.66**	**0.62**	**High**

Legend: (4.21 – 5.00)-Very High; (3.41 – 4.20)-High; (2.61 – 3.40)-Moderate; (1.81 – 2.60)-Low; (1.00 – 1.80)-Very Low

As reflected in Table 4, the overall mean of 3.66 with a standard deviation of 0.62 is interpreted as high, indicating that learners frequently receive support, guidance, and encouragement at home. The relatively low standard deviation suggests that the responses of the learners are fairly consistent, indicating a similar level of home support among respondents.

Specifically, Supportive Parental Homework Involvement (SPI) obtained a mean of 3.97, interpreted as high, indicating that parents frequently provide encouragement, guidance, and assistance to learners in completing their mathematics tasks. Among the indicators, "My parent supports me in trying to solve math tasks on my own first before helping" recorded one of the highest means (4.04), indicating that learners generally experience supportive practices that encourage independence. The standard deviations ranging from 1.02 to 1.09 indicate moderate variability in responses, suggesting some differences in the extent of support provided at home.

On the other hand, Intrusive Parental Homework Involvement (IPI) obtained a mean of 3.36, interpreted as moderate. Since the negatively stated IPI items were reverse-scored prior to analysis, higher scores reflect more

favorable home learning support and lower levels of intrusive parental involvement. Thus, the moderate rating indicates a moderate level of positive home support with respect to intrusive parental behaviors. For instance, items related to parental pressure and criticism yielded moderate ratings, with standard deviations ranging from 1.36 to 1.41, indicating greater variability in learners' experiences. This suggests that while some learners experience supportive parental practices more frequently, others may still encounter controlling or pressuring parental behaviors.

Overall, the findings show that learners generally receive a high level of home support, with supportive parental involvement occurring frequently and intrusive parental behaviors occurring less frequently. This suggests that positive forms of parental involvement are more prevalent among the respondents.

Among the two dimensions of home support, Supportive Parental Homework Involvement (SPI) obtained the highest mean score of 3.97, interpreted as high. This indicates that learners frequently receive encouragement, guidance, and assistance from their parents in accomplishing mathematics-related tasks. The higher rating may suggest that supportive parental practices are more commonly experienced by the learners, providing them with academic assistance while promoting independence in completing schoolwork.

In contrast, Intrusive Parental Homework Involvement (IPI) obtained the lower mean score of 3.36, interpreted as moderate. Since the negatively stated items were reverse-scored, the result reflects a moderate level of positive home support in relation to intrusive parental behaviors. The lower rating relative to SPI may indicate that supportive parental practices are more commonly experienced by learners than controlling or pressuring forms of involvement.

The results are consistent with previous studies that highlight the association between home learning support and learners' academic development. Home support, particularly in the form of parental encouragement, guidance, and structured learning environments, has been associated with learners' motivation and engagement in mathematics. Vanbecelaere et al. (2021) reported a positive relationship between parental involvement, structured home learning environments, and learners' cognitive development and academic skills.

Moreover, studies distinguish between supportive and intrusive parental involvement. Jiang et al. (2023) found that supportive parental behaviors, such as encouragement and autonomy support, are significantly related to mathematics achievement, while intrusive behaviors, such as pressure and control, are associated with learners' motivation and learning experiences.

Similarly, Guevarra (2025) emphasized that consistent parental support strengthens learners' numeracy skills and promotes better learning outcomes. These findings align with the present study, where supportive involvement was high while intrusive involvement was moderate.

Level of Performance in Mathematics

Table 5 presents the learners' level of performance in mathematics.

Table 5. Level of Performance in Mathematics.

Level of Performance in Mathematics	f	Mean	SD	Interpretation
Outstanding	53	85.74	4.65	Very Satisfactory
Very Satisfactory	100			
Satisfactory	68			
Fairly Satisfactory	24			
Did Not Meet Expectations	0			
Total	245			

Legend: (90-100)-Outstanding; (89-85)-Very Satisfactory; (80-84)-Satisfactory; (75-79)-Fairly Satisfactory; (Below 75)-Did Not Meet Expectations

As shown in Table 5, the learners obtained an overall mean grade of 85.74 with a standard deviation of 4.65, which is interpreted as Very Satisfactory.

In terms of distribution, 100 learners fall under the Very Satisfactory level, which constitutes the largest group among the respondents. This is followed by 68 learners who achieved a Satisfactory performance, and 53 learners who reached the Outstanding level. Meanwhile, 24 learners obtained a Fairly Satisfactory rating, and none of the respondents fell under the "Did Not Meet Expectations" category.

These results indicate that the majority of learners are performing at or above the expected level in mathematics. The absence of learners in the lowest category further suggests that overall academic performance in mathematics is relatively strong among the respondents.

The learners' very satisfactory performance is consistent with literature highlighting the relationship between mathematics achievement and various instructional and environmental factors. Previous studies have reported that teaching strategies, learning resources, and supportive learning environments are associated with learners' academic outcomes. Guballa et al. (2025) likewise reported a positive relationship between instructional quality, learning resources, and students' mathematics performance.

In addition, Rivera and Mabutol (2025) found that well-structured and meaningful mathematical tasks improve learners' conceptual understanding and performance. These findings are consistent with the present results, suggesting that contextualized numeracy tasks and supportive learning conditions are associated with learners' mathematics achievement.

Relationship between the Learners' Engagement with the Contextualized Numeracy Tasks and their Performance in Mathematics

Presented in table 6 is the relationship between the engagement with the contextualized numeracy tasks and the performance in mathematics of Grade 7 learners.

Table 6. Relationship between the Learners' Engagement with the Contextualized numeracy Tasks and their Performance in Mathematics.

Variable	Test Statistics ($\square_{\square}$)	p-value	Decision for H_o	Interpretation
Contextualized numeracy Task vs. Performance in Mathematics	0.057	0.372	Fail to Reject H_o	Not Significant

Note. n = 245

Table 6 presents the relationship between learners' engagement with contextualized numeracy tasks and their performance in mathematics. The computed correlation coefficient (r = 0.057) indicates a very weak positive relationship between the two variables. This means that while there is a slight tendency for performance in mathematics to increase as engagement increases, the relationship is minimal and almost negligible.

Furthermore, the obtained p-value of 0.372 is greater than the 0.05 level of significance, which led to the decision to fail to reject the null hypothesis. This means that there is insufficient statistical evidence to conclude that a significant relationship exists between learners' engagement and their performance in mathematics. In other words, the observed relationship may have occurred by chance and cannot be considered reliable enough to establish a meaningful connection between the two variables.

The learners' very satisfactory performance is consistent with literature highlighting the relationship between mathematics achievement and various instructional and environmental factors. Previous studies have reported that teaching strategies, learning resources, and supportive learning environments are associated with learners' academic outcomes. Guballa et al. (2025) likewise reported a positive relationship between instructional quality, learning resources, and students' mathematics performance.

This suggests that mathematics performance may be associated with several factors beyond engagement, including prior knowledge, cognitive ability, learning strategies, teaching methods, assessment type, and home learning support. The results further suggest that engagement may be related to learners' interest, participation, and attitudes toward mathematics, which may not necessarily be reflected directly in academic grades.

Although learners demonstrated a high level of engagement in contextualized numeracy tasks, the results indicate that engagement alone is not significantly associated with their performance in mathematics. This finding highlights the importance of considering multiple factors when examining academic achievement and suggests that mathematics performance may be related to a combination of instructional, cognitive, and environmental factors.

The finding of a non-significant relationship between engagement and mathematics performance contrasts with some studies in the literature. Previous research suggests that engagement is commonly associated with positive academic outcomes; however, it is not consistently related to academic performance. Sabido et al. (2026) reported that contextualized learning is associated with increased learner engagement, although the relationship between engagement and performance may differ depending on factors such as prior knowledge, learning strategies, and cognitive ability. This suggests that mathematics performance may be associated with several factors beyond engagement, including prior knowledge, cognitive ability, learning strategies, teaching methods, assessment type, and home learning support. The results further suggest that engagement may be related to learners' interest, participation, and attitudes toward mathematics, which may not necessarily be reflected directly in academic grades.

This explains why, despite the high level of engagement observed in the present study, no significant relationship with performance was established.

Relationship between the Level of Home Support Received and the Learners' Level of Performance in Mathematics.

Table 7 presents the relationship between the level of home learning support received and the level of performance in mathematics of Grade 7 learners.

Table 7. Relationship between the Level of Home Support Received and the Learners' Level of Performance in Mathematics.

Variable	Test Statistics (□ □)	p-value	Decision for H_o	Interpretation
Level of Home Support Received vs. Level of Performance in Mathematics	0.299^{**}	<0.001	Reject H_o	Significant

Note. n = 245

Table 7 shows the relationship between the level of home support received and learners' performance in mathematics. The computed correlation coefficient (r = 0.299) indicates a weak positive relationship between the two variables.

The obtained p-value was less than 0.001, which is below the 0.05 level of significance. Therefore, the null hypothesis is rejected, indicating a statistically significant relationship between home support and mathematics performance. However, the correlation coefficient (r = 0.299) indicates only a weak positive relationship. This suggests that although home support is positively associated with mathematics performance, the magnitude of the relationship is relatively modest.

The results indicate that higher levels of home support are associated with higher mathematics performance. The findings highlight the important role of family involvement in supporting students' academic success.

The significant relationship between home support and mathematics performance is consistent with existing literature. Previous studies have reported that parental involvement is positively related to learners' academic achievement. Wang and Wei (2024) likewise reported a significant positive relationship between parental involvement and mathematics achievement, particularly when such involvement includes guidance, encouragement, and academic supervision.

Moreover, İlter et al. (2025) reported a positive relationship between home support, learners' motivation, self-efficacy, and academic performance.

Similarly, Hernández-Padilla et al. (2023) reported a significant relationship between parental support, home learning environments, and mathematics achievement. These findings support the results of the present study, which revealed a significant relationship between home support and learners' mathematics performance.

CONCLUSION

From the findings presented, the following conclusions are drawn: The respondents are predominantly female and graduates of public elementary schools, with most parents having attained a high school level of education. Learners are frequently engaged in contextualized numeracy tasks, reflecting high levels of participation, interest, and involvement in mathematics learning. Learners generally receive a high level of home support, with supportive parental homework involvement being more prevalent than intrusive parental homework involvement. The findings indicate that positive parental practices such as encouragement, guidance, and assistance are commonly experienced by the learners, contributing to a generally favorable home learning environment. The mathematics performance of learners is very satisfactory, indicating that learners have achieved a commendable level of academic performance. No significant relationship was found between learners' engagement in contextualized numeracy tasks and their performance in mathematics. This suggests that while engagement is an important aspect of the learning process, it may not be significantly associated with learners' mathematics performance in this study. A significant relationship was found between home support and learners' academic achievement. Learners who reported higher levels of home support also tended to report higher mathematics performance.

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