

Motivation-Driven Instruction: Exploring Teaching Styles in Grade 4 Mathematics in Montalban District, Rizal

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Abstract: Encouraging students is a crucial duty for mathematics educators, especially at the elementary level, where students form basic mathematical understandings and attitudes. This study explored the motivational techniques, instructional methods, and obstacles faced by Grade 4 Mathematics teachers in the Montalban District, Division of Rizal. A descriptive quantitative research approach was utilized, involving twenty-eight (28) Grade 4 Mathematics teachers chosen through total enumeration sampling. Data collection was conducted using a structured questionnaire adapted by the researcher, and analysis was performed using frequency, percentage, and weighted mean. The results indicated that the participants generally concurred that they often employed effective motivational techniques (overall mean = 3.95) and instructional methods (overall mean = 3.62) in teaching Mathematics. Among the top-rated practices were offering challenging learning tasks, highlighting the relevance of mathematical concepts, giving constructive feedback, and teaching by example. These methods were seen as enhancing student engagement, participation, and classroom interaction. The difficulties encountered in teaching Grade 4 Mathematics were mostly considered slightly serious (overall mean = 2.22), with limited community involvement being the most notable issue. Problems related to teaching materials, textbooks, school support, and professional development were viewed as less severe. The study concludes that effective motivational techniques and student-focused teaching methods positively impact mathematics instruction, while increased collaboration among schools, parents, and the community can further enhance instructional effectiveness. The findings could inform the development of professional growth initiatives and school-based intervention programs aimed at strengthening mathematics teaching and improving student outcomes in elementary education.

Keywords: *Mathematics Education; Motivation Strategies; Teaching Styles; Elementary Education*

INTRODUCTION

Math education plays a significant role in helping students develop critical thinking, problem-solving, and logical reasoning skills. These skills are essential for tackling complex challenges in our globalized world. Research shows that teaching methods that include real-world applications and problem-based learning can boost these cognitive skills in primary school children, helping them think more deeply and analyze better, which is crucial for doing well in math (Amir et al., 2024). However, there is a global concern about the drop in math performance among elementary students, which has led to calls for changes in teaching methods to focus more on critical thinking and active participation. Teaching styles that encourage independence and provide structure have been found to positively impact students' attitudes and self-confidence in math, leading to better performance and motivation (Awado et al., 2024). Additionally, teaching strategies that use inquiry-based and problem-based learning are particularly effective in developing students' critical thinking skills. However, implementing these strategies requires ongoing teacher training and resource support (Darminto et al., 2025).

In the Philippines, both national and international assessments show that Filipino students often perform at average or below-average levels in mathematics. This is partly due to challenges such as different learner abilities, a lack of instructional materials, and difficulties in keeping students engaged in the learning process. Math teachers have a tough time motivating students and improving classroom interaction, which highlights the importance of using teaching methods that are centered around the learners and keep them motivated (Luzano, 2024). To tackle these issues, the Department of Education is pushing for initiatives that focus on professional development for teachers and providing more resources to improve the quality of math instruction. They are looking into collaborative professional practices, such as Lesson Study, but cultural and socio-economic factors can affect how well this work is; therefore, it is important to adapt them to fit the local context (Espinosa & Elipane, 2025).

Motivation strategies and autonomy-supportive teaching styles can improve pre-service teachers' attitudes toward math and achievement, offering intervention insights (Awado et al., 2024). In the Montalban District of Rizal Division, Grade 4 math instruction varies in motivation and teaching styles, affecting participation and achievement. Teachers face challenges such as limited resources, learner abilities, and sustaining engagement. Understanding these challenges is crucial for developing strategies to improve teaching practices and student outcomes. Aligning professional development with critical thinking and problem-solving goals can boost teaching effectiveness and student performance in math (Luzano, 2024). Studies have examined motivation, learning styles, or math performance. However, few have examined how Grade 4 math teachers motivate students, their teaching styles, and the challenges they face, especially in the Montalban District of Rizal. This lack of local research makes it difficult for administrators and educators to develop interventions, improve methods, and strengthen math instruction. Filling this gap is crucial for developing context-specific strategies that support teachers and students in this area.

RESEARCH QUESTIONS

This study aimed to examine the motivation strategies, teaching styles, and problems encountered by Grade 4 Mathematics teachers in the Montalban District of Rizal. Specifically, it sought to answer the following research questions:

- What is the demographic profile of the respondents in terms of age, gender, civil status, position, highest educational attainment, performance rating, years of teaching, and in-service trainings attended?
- What are the respondents' perceptions of the motivation strategies used in teaching Grade 4 Mathematics?
- What are the respondents' perceptions of the teaching styles used in teaching Grade 4 Mathematics?
- What problems do Grade 4 Mathematics teachers encounter when teaching Grade 4 Mathematics?

METHODOLOGY

Research Design

This study employed a descriptive quantitative research design to determine the perceptions of Grade 4 Mathematics teachers regarding motivation strategies, teaching styles, and problems encountered in teaching Mathematics. The descriptive approach was appropriate because it systematically described the existing conditions and practices without manipulating any variables. Data was gathered through a structured survey questionnaire and analyzed using descriptive statistical techniques to provide an objective description of the respondents' perceptions.

Local of the Study

This study was conducted in the Montalban District, Division of Rizal, Philippines. The district

comprises several public elementary schools that offer Grade 4 Mathematics instruction. The locale was selected because it provided an appropriate setting for examining teachers' instructional practices, motivational strategies, and challenges encountered in teaching Mathematics. The findings are expected to contribute to the improvement of mathematics instruction within the district.

Respondents of the Study

The respondents of the study were twenty-eight (28) Grade 4 Mathematics teachers currently teaching in the public elementary schools of the Montalban District during the School Year 2025–2026. These teachers were selected because they possessed the necessary experience and firsthand knowledge regarding the implementation of motivation strategies and teaching styles in mathematics instruction. Their responses served as the primary source of data for the study.

Sampling Procedure

The study employed total enumeration sampling, wherein all Grade 4 Mathematics teachers in the identified schools in the Montalban District were included as respondents. This sampling technique ensured that every qualified teacher participated in the study, thereby providing a comprehensive representation of the target population and minimizing sampling bias.

Research Instrument

The primary instrument used in this study was a researcher-adapted structured questionnaire developed from related literature and previous studies on motivation strategies and teaching styles in mathematics education. The questionnaire consisted of two major parts. The first part gathered the demographic profile of the respondents, including age, gender, civil status, position, highest educational attainment, performance rating, years of teaching experience, and in-service trainings attended. The second part measured the respondents' perceptions regarding motivation strategies, teaching styles, and problems encountered in teaching Grade 4 Mathematics using a five-point Likert scale, with higher mean scores indicating stronger agreement.

Data Gathering Procedure

Prior to conducting the study, the researcher secured the necessary approvals from the school authorities concerned and district officials. After obtaining permission, the researcher personally distributed the questionnaires to the respondents and explained the purpose of the study, including the procedures for answering the instrument. Respondents were given sufficient time to complete the questionnaire, after which the completed forms were collected, checked for completeness, and organized for statistical analysis.

Statistical Treatment of Data

The collected data were analyzed using appropriate descriptive statistics. Frequency and percentages were used to describe the respondents' demographic profiles. The weighted mean was employed to determine the respondents' perceptions regarding the motivation strategies, teaching styles, and problems encountered in teaching Grade 4 Mathematics. The computed weighted means were interpreted using an established descriptive scale to determine the level of agreement for each indicator.

RESULT AND DISCUSSION

Table 1. Demographic Profile of the Respondents

Variable	Category	Frequency	Percentage
Age	20–25	2	7.14
	26–30	5	17.85
	31–35	15	53.57

	36–40	2	7.14
	41–45	3	10.71
	46 and above	1	3.57
Gender	Male	10	35.71
	Female	18	64.28
Civil Status	Single	6	21.42
	Married	21	75.00
	Widow	1	3.57
Position	Teacher I	6	21.42
	Teacher II	1	3.57
	Teacher III	20	71.42
	Master Teacher I	1	3.57
Highest Educational Attainment	BEED	3	10.71
	MAEd Units	5	17.85
	MAEd Graduate	19	67.86
	PhD	1	3.57
Performance Rating	Outstanding	21	75.00
	Very Satisfactory	6	21.42
	Satisfactory	1	3.57
Years in Teaching	1–5	3	10.71
	6–10	3	10.71
	11–15	11	39.26
	16–20	8	28.57
	21 and above	3	10.71
In-Service Trainings Attended	School/District	28	100.00
	Division	28	100.00
	Regional	18	64.29
	National	16	57.14
	International	1	3.57

Table 1 presents the demographic profile of the Grade 4 Mathematics teachers in the Montalban District. The results show that most of the respondents were 31–35 years old (53.57%), female (64.28%), and married (75.00%). Most of the respondents were Teacher III (71.42%) and had already completed a Master of Arts in Education (67.86%). Most of the teachers also received an Outstanding performance rating (75.00%) and had 11–15 years of teaching experience (39.26%). In addition, all respondents had attended school, district, and division training programs, while many had also participated in regional and national seminars. These findings indicate that the respondents are experienced, academically qualified, and actively engaged in professional development, which helps them deliver effective mathematics instruction.

Table 2. Respondents' Perception of Motivation Strategies Used in Teaching Grade 4 Mathematics

Motivation Strategies	Mean	Interpretation
Call the attention of the pupils	3.99	Agree
Showing a Sequential Achievement	3.76	Agree
Discovering a Pattern	4.02	Agree
Present a Challenge	4.44	Strongly Agree
Entice the Class with a “Gee-Whiz” Mathematical Result	3.70	Agree
Indicating the Usefulness of a Topic	4.20	Strongly Agree

Use Recreational Mathematics	4.16	Agree
Tell a Pertinent Story	3.32	Agree
Get Students Actively Involved in Justifying Mathematical Curiosities	3.56	Agree
Overall	3.95	Agree

The respondents' perceptions of the motivation strategies used in teaching Grade 4 Mathematics indicate overall agreement on the effectiveness of these strategies, with a mean score of 3.95. Strategies such as presenting a challenge (mean = 4.44) and indicating the usefulness of a topic (mean = 4.20) received the strongest agreement, highlighting their critical role in motivating students. Discovering a pattern (4.02), using recreational mathematics (4.16), and calling the attention of the pupils (3.99) also received favorable agreement, suggesting that these techniques engage students and foster interest in mathematical learning. Other strategies, including showing sequential achievements (3.76), enticing the class with a "gee-whiz" mathematical result (3.70), and involving students in justifying mathematical curiosities (3.56), were positively viewed but to a slightly lesser extent. Telling a pertinent story scored the lowest meaning (3.32), although still within agreement, possibly indicating the need for greater relevance or integration with mathematics content for a stronger motivational impact. These findings align with broader research emphasizing the importance of task relevance, engagement, and cognitive challenge in promoting student motivation. For instance, incorporating strategies that enhance attention, relevance, confidence, and satisfaction—dimensions of the ARCS model—has been shown to significantly elevate motivation and learning outcomes in mathematics education (Hu, 2024). Additionally, teaching approaches that actively involve students and indicate the practical usefulness of math foster positive perceptions and higher engagement (Hossein-Mohand & Hossein-Mohand, 2023; Wilkins et al., 2021). Hence, employing a diverse array of motivational strategies tailored to student interests and learning processes is essential for effective mathematics instruction at the elementary level.

Table 3. Respondents' Perception of Teaching Styles Used in Teaching Grade 4 Mathematics

Teaching Styles	Mean	Interpretation
Possesses knowledge and expertise that students need	3.60	Agree
Strives to maintain status as an expert by displaying detailed knowledge and challenging students to enhance their competence	2.81	Moderately Agree
Concerned with transmitting information and ensuring students are well-prepared	2.96	Moderately Agree
Standards and expectations help students develop discipline	3.53	Agree
Provides positive/negative feedback, learning goals, expectations, and rules of conduct	4.24	Strongly Agree
Concerned with correct, acceptable, and standard ways to do things	3.34	Moderately Agree
Believes in teaching by example and establishes a prototype for how to think and behave	4.38	Strongly Agree
Oversees and directs by showing how to do things and encouraging students to emulate the instructor's approach	3.89	Agree
Shows students how they can use various principles and concepts	3.75	Agree
Guides students by asking questions, exploring options, suggesting alternatives, and encouraging informed decisions	3.31	Moderately Agree
Develops students' capacity for independent responsibility	3.78	Agree
Employ small-group discussions to help students develop critical thinking	3.87	Agree
Overall	3.62	Agree

Respondents' views on Grade 4 mathematics teaching methods indicated a consensus (mean = 3.62) that teachers apply effective strategies. Teaching styles that focused on clear guidance and modeling

received the highest scores. Strongest agreement (mean = 4.38) favored teaching through example and setting prototypes for thought and behavior, highlighting students' appreciation of teachers who demonstrate processes and attitudes. Similarly, strong agreement (mean = 4.24) supported feedback with clear learning objectives and expectations, emphasizing structured feedback and classroom management in fostering motivation. Other methods, including supervising tasks (mean = 3.89), fostering independence (mean = 3.78), and small-group discussions (mean = 3.87), received moderate to strong agreement. Conversely, behaviors focused on maintaining expert status through detailed knowledge and challenging students scored lower (mean = 2.81), suggesting that while expertise is acknowledged, it is less crucial to students' perceptions of effective teaching at this level. These results align with research underscoring participative, student-centered styles in building relationships and engagement in primary education (Cardenal et al., 2023). Furthermore, the focus on modeling and clear expectations reflects styles among primary mathematics educators, where personal modeling and formal authority are common and linked to gender and experience (Mahmad et al., 2023).

Table 4. Respondents' Perception of the Problems Encountered in Teaching Grade 4 Mathematics

Problems Encountered	Mean	Interpretation
There is an inadequate supply of textbooks for Mathematics.	1.53	Not Serious
There are inadequate materials for use in mathematics activities.	1.91	Slightly Serious
The school fairly supports mathematics program activities.	2.41	Slightly Serious
The community discreetly participates in mathematics activities.	3.34	Serious
The school occasionally facilitates mathematics training.	1.89	Slightly Serious
Overall Mean	2.22	Slightly Serious

The respondents' views on the challenges in teaching Grade 4 Mathematics show that these issues are generally seen as slightly serious, with an average score of 2.22. Specific problems, such as the lack of textbooks (average = 1.53) and insufficient mathematics training (average = 1.89), were considered neither serious to slightly serious. Similarly, the lack of materials for math activities (average = 1.91) and the school's moderate support for math programs (average = 2.41) were also rated as slightly serious. A more significant issue was the limited community involvement in math activities, which was seen as serious, with an average score of 3.34. This indicates that community support and involvement are seen as major obstacles to effective math teaching at this grade level. These findings align with broader challenges in math education, highlighting the impact of resources and stakeholder involvement on teaching success and student learning (Abuhasanein et al., 2025). The slight seriousness of most issues may suggest ongoing efforts to improve material and institutional support; however, community engagement still needs significant improvement. Improving professional development and building partnerships between schools and communities could help address these problems, leading to better support for primary math instruction (Fitriati et al., 2023).

CONCLUSION

The findings of the study indicate that Grade 4 Mathematics teachers in the Montalban District effectively implement motivation strategies and teaching styles that promote learner engagement and meaningful classroom participation. Teachers highly value strategies that challenge learners, emphasize the practical application of mathematics, provide constructive feedback, and model positive learning behaviors. These approaches contribute to creating a supportive and motivating learning environment that enhances students' interest and participation in mathematics. Although the respondents perceived the problems encountered in teaching mathematics as only slightly serious, limited community participation emerged as the most notable concern. Overall, the study concludes that sustaining effective instructional practices, strengthening professional development, and fostering greater

collaboration among schools, parents, and the community are essential for improving the quality of Grade 4 Mathematics instruction.

RECOMMENDATION

The study findings indicate that Grade 4 Mathematics teachers in the Montalban District effectively implement motivation strategies and teaching styles that promote learner engagement and meaningful participation. Teachers value strategies that challenge learners, emphasize practical application of mathematics, provide constructive feedback, and model positive behaviors. These approaches create a supportive and motivating environment that enhances students' interest and participation. Although respondents perceived the problems encountered in teaching mathematics as slightly serious, limited community participation emerged as a notable concern. Overall, the study concludes that sustaining instructional practices, strengthening professional development, and fostering collaboration among schools, parents, and the community are essential to improving the quality of Grade 4 Mathematics instruction.

LIMITATIONS OF THE STUDY

This study was limited to the perceptions of twenty-eight (28) Grade 4 Mathematics teachers from public elementary schools in the Montalban District, Division of Rizal. It focused only on motivation strategies, teaching styles, and the problems encountered in teaching Mathematics using a descriptive quantitative research design. The findings were based on self-reported responses, which may be influenced by personal bias and may not fully reflect actual classroom practices. The study also did not examine learners' academic performance or other factors such as school resources, leadership, parental involvement, and classroom observations that may influence instructional effectiveness. Therefore, the findings should be interpreted within the context of the respondents and the study locale.

FUTURE RESEARCH DIRECTIONS

Future studies may involve a larger number of respondents from different school divisions and educational settings to improve the generalizability of the findings. Researchers may also investigate the relationship between teachers' motivation strategies, teaching styles, and students' academic performance, engagement, and learning outcomes. Employing mixed-methods or experimental research designs may provide deeper insights into the effectiveness of specific instructional approaches. Future research may also explore the influence of school leadership, parental support, instructional resources, and technology integration on effective mathematics instruction.

ETHICS STATEMENT

Permission to conduct the study was obtained from the appropriate educational authorities and school administrators prior to data collection. The respondents were informed of the purpose, procedures, and significance of the study, and their participation was voluntary. Informed consent was obtained from all participants, who were assured that their identities and responses would remain confidential and anonymous. All information collected was used solely for academic and research purposes and was handled in accordance with accepted ethical standards for research involving human participants.

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AI DISCLOSURE STATEMENT

During the preparation of this work, the author(s) used [NAME TOOL / SERVICE] in order to [e.g., generate text, check grammar, analyze data, or assist with literature search]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the published work.

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