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Teaching Proficiency of Teachers and Numeracy Competence of Learners

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Abstract

This study assessed the correlation of the teaching proficiency of teachers and the numeracy competence of Grade 7 learners at Pinamasagan National High school, San Fernando Camarines Sur, during the school year 2024-2025. With the total enumeration of 93 grade 7 learners and descriptive – correlational method was employed to determine the level of teaching proficiency of Mathematics teachers along lesson planning and delivery, mastery of content, classroom management and giving of assessment and evaluation and the numeracy competence of the learners in the aspect of representation, analysis, computation and problem solving and the predictive relationship between the two variables which will be the basis in formulating an intervention proposal. The study revealed that while teaching proficiency is generally at a proficient level, learners' numeracy competence remains at a developing stage, indicating a gap between instructional delivery and learning outcomes. The weak correlation between lesson planning and delivery, mastery of content, and assessment practices suggests that these instructional components may not be effectively aligned to support the development of numeracy skills. In contrast, the significant relationship between classroom management and problem-solving highlights the importance of a well-structured and supportive learning environment in enhancing learners' numeracy competence.

Keywords: Teaching Proficiency, Numeracy Competence

1. Introduction

Mathematics plays a crucial role in shaping learners' cognitive abilities, particularly in reasoning, problem-solving, and decision-making. As an educator, it has been observed that many learners encounter difficulties in developing numeracy skills, especially during transitional stages such as in Grade 7, where mathematical concepts become increasingly abstract and complex. Despite the evident effort and proficiency demonstrated by teachers in delivering instruction, there are instances where learners struggle to fully comprehend and apply mathematical concepts in meaningful ways. This situation raises an important concern regarding whether teaching practices are effectively aligned with learners' needs. It also highlights the necessity of examining how teaching proficiency influences learners' numeracy competence, particularly in identifying which aspects of instruction contribute most to student learning outcomes.

From a global perspective, teaching proficiency is widely acknowledged as a critical determinant of students' academic success, especially in mathematics education. Effective teaching goes beyond content

delivery; it involves the integration of pedagogical knowledge, classroom management skills, assessment strategies, and the ability to address diverse learning styles. Teacher competence has been described as a multidimensional construct encompassing pedagogical, professional, social, and personal competencies (Radite & Retnawati, 2023). In addition, teaching frameworks identify essential domains such as planning and preparation, classroom environment, instruction, and professional responsibilities as key indicators of effective teaching (Danielson, 2007, as cited in Radite & Retnawati, 2023). Empirical studies have consistently shown that teachers' mastery of subject content and their ability to implement appropriate instructional strategies significantly influence learners' academic performance (Mulualem & Tedesse, 2024; Fajardo & Guzman, 2024; Mastrokoukou et al., 2022). These findings emphasize that teaching proficiency is a fundamental factor in facilitating meaningful learning experiences and improving students' understanding of mathematical concepts.

Complementing teaching proficiency is the concept of numeracy competence, which refers to an individual's ability to understand, interpret, and apply numerical information in various contexts. Numeracy competence encompasses a wide range of skills, including basic arithmetic, logical reasoning, problem-solving, and the ability to analyze quantitative data (Antivola, 2023; Goos, 2023). It is not limited to performing calculations but extends to applying mathematical knowledge in real-life situations, enabling individuals to make informed decisions (Gittens, 2025; Jonas, 2025). Research indicates that numeracy competence is a strong predictor of academic achievement across different subject areas, as it reflects deeper conceptual understanding and critical thinking skills (Alkharusi, 2018). Moreover, effective instructional strategies such as guided practice, use of manipulatives, and contextualized problem-solving have been found to significantly enhance students' numeracy competence (Wizdka & Spence, 2021). Thus, developing numeracy competence is essential not only for academic success but also for equipping learners with practical life skills necessary in an increasingly data-driven world.

The importance of strengthening both teaching proficiency and numeracy competence is further emphasized in global educational initiatives such as the United Nations Sustainable Development Goals (SDGs). In particular, Sustainable Development Goal 4 (Quality Education). Specifically, Goal 4, it states that: the goal is to promote inclusive and high-quality education for all individuals, ensuring that every learner has access to the resources and support they need to succeed. A key focus of this initiative is to enhance numeracy skills for learners around the world, empowering them to reach their full potential in an increasingly numerical and data-driven society. A key component of this goal is the development of foundational skills, including literacy and numeracy, which are essential for personal growth and societal participation. SDG 4 underscores the need for qualified teachers, effective learning environments, and relevant instructional strategies that enhance learners' competencies. This global commitment highlights the critical role of teaching proficiency in achieving improved numeracy outcomes and ensuring that learners are adequately prepared to meet the demands of modern society.

In the Philippine context, the Department of Education (DepEd) has implemented various policies and programs aimed at enhancing teaching proficiency and improving learners' numeracy competence. These initiatives reflect the government's commitment to strengthening the quality of education by ensuring that teachers are equipped with the necessary knowledge and skills to deliver effective instruction. Continuous professional development programs are emphasized to help educators improve their teaching strategies, adapt to evolving educational demands, and address the diverse needs of learners. At the same time,

national programs targeting literacy and numeracy aim to address learning gaps and support students in developing essential foundational skills.

Anchored on these efforts, the legal bases of this study are grounded on key DepEd policies that emphasize both teacher development and learner outcomes. As stipulated in a compounded provision:

"The Department of Education shall ensure continuous professional development of teachers to enhance instructional practices and improve learner outcomes. It shall likewise implement programs and assessment systems that strengthen learners' literacy and numeracy skills, thereby promoting inclusive, equitable, and quality education for all." (DepEd Order No. 22, s. 2016; DepEd Order No. 8, s. 2015; Regional Memorandum No. 786, s. 2023)

These mandates are operationalized through regional initiatives such as Project 6B: Bawat Batang Bicolano Bihasang Bumasa at Bumilang, which aims to improve foundational literacy and numeracy skills among learners while enhancing teachers' instructional competence. The implementation of such programs highlights the interconnectedness of teaching proficiency and learner achievement, particularly in mathematics education.

Despite the existence of these policies and programs, gaps remain in understanding how teaching proficiency directly influences learners' numeracy competence, especially within specific educational contexts. While numerous studies have established that teacher competence affects student performance, there is limited research that examines the relationship between specific dimensions of teaching proficiency—such as lesson planning, mastery of content, classroom management, and assessment practices—and learners' numeracy competence at the Grade 7 level. Furthermore, there is a need to explore why learners continue to exhibit developing levels of numeracy despite teachers demonstrating proficiency in instruction. This gap indicates a possible misalignment between teaching practices and learning outcomes, which warrants further investigation.

The significance of this study lies in its potential to address these gaps by providing empirical evidence on the relationship between teaching proficiency and numeracy competence. The findings are indeed valuable to teachers, as to how they can be able to gain insights and how their instructional practices can be improved to better support learners' numeracy development. School administrators may use the results to design targeted professional development programs that address specific areas of teaching proficiency. Policymakers, on the other hand, can utilize the findings to enhance existing educational policies and interventions aimed at improving both teaching quality and student performance. Most importantly, the study will benefit learners by contributing to the development of more effective instructional strategies that enhance their numeracy competence and overall academic achievement.

This research arises from the observed disparities in mathematics performance among Grade 7 learners, which may be linked to variations in teaching proficiency. These disparities highlight the need to ensure that all learners are provided with equal opportunities to develop essential numeracy skills. Addressing this issue is critical not only for improving individual student outcomes but also for achieving broader educational goals related to equity and quality in education. By examining the relationship between teaching proficiency and numeracy competence, this study seeks to identify factors that contribute to effective teaching and improved student learning. Ultimately, this research aims to contribute to the advancement of mathematics education by providing a deeper understanding of how teaching practices

influence learners' numeracy competence. It supports the broader goal of aligning instructional practices with national and global educational priorities, particularly those outlined in SDG 4. By strengthening teaching proficiency and enhancing numeracy competence, the study contributes to the development of learners who are capable of critical thinking, problem-solving, and informed decision-making, thereby preparing them for the challenges of the modern world.

2. Research Objectives

This study determined the influence of teaching proficiency of teachers on the numeracy competence of Grade 7 learners of Pinamasagan National High School, San Fernando, Camarines Sur. Specifically, it obtained the following objectives: to determine the level of teaching proficiency of mathematics teachers in terms of lesson planning and delivery, mastery of content, classroom management, and giving assessment or evaluation, to determine the level of the numeracy competence of the learners along; representation, analysis, computation and problem solving, to determine the significant relationship between the teaching proficiency of teachers and numeracy competence of learners in mathematics, to determine the influence of teaching proficiency of teachers on the numeracy competence of learners in Mathematics, and to develop intervention proposal based on the findings of the study to enhance the teaching proficiency of teachers in relation to developing the numeracy competence of learners.

3. Methods

The study employs a descriptive-correlational research design to examine the relationship of the teaching proficiency and the numeracy competence of 93 grade 7 students. By utilizing the validated teacher -made test and the total enumeration of the sampling, the study systematically identifies performance gaps to provide an empirical basis for the development of the intervention proposal N.U.M.E.R.O. The following sections detail the specific sampling techniques, instrumentation, and statistical tools used to ensure the reliability and ethical integrity of the investigation.

The research instruments utilized in this study is a survey questionnaire and a teacher-made test. Survey Questionnaire, this instrument was used to assessed the teaching competence of the teachers in mathematics. It was validated by the mathematics teacher and research adviser. Likewise, the suggestions and comments were also considered to improve the survey questionnaire before it was administered to the learner respondents. The survey questionnaire is divided into two parts: First part is about the demographic information of the respondents, the second parts are questions pertaining to the different teaching competence such as on lesson planning and delivery, content mastery, classroom management and giving assessment and evaluation. Teacher-Made Test, this instrument was used to determine the mathematics achievement of Grade 7 students on the covered Most Essential Learning Competencies (MELCs) during the first and second quarters in Mathematics 7. The test consisted of 40 items covering learners' numeracy competence in terms of representation, analysis, computation, and problem-solving. Following rigorous development, the test underwent content validation by 15 professional mathematics teachers and the research adviser to ensure alignment with competencies and age-appropriateness..

4. Results And Discussion

This section presents the analyzed data derived from the validated scores and survey instruments administered to the respondents. The findings are organized according to the study's specific objectives,

with each table followed by a detailed examination of the results. The discussion integrates interpretation, conclusions, and alignment with existing literature, and theories to provide a comprehensive understanding of the relationships of the teaching competency and the numeracy competence of the students along representation, analysis, computation and problem solving.

5. Teaching Proficiency of Teachers

The teaching proficiency of teachers was assessed through a learner-centered approach using a validated survey questionnaire. This evaluation focused on four critical aspects: lesson planning and delivery, mastery of content, classroom management, and giving assessment and evaluation. Each aspect included seven indicators measured on a four-point Likert scale, enabling students to provide detailed and structured feedback. By capturing learners' perspectives, the survey aimed to provide a comprehensive understanding of teachers' effectiveness in various instructional domains. The results from this assessment offer valuable insights for improving teaching practices and enhancing overall educational quality. Tables 2a up to 2e presents the results of the level of teaching proficiency of Mathematics teachers as perceived by the learners.

Table 2a

Level of Teaching Proficiency of Mathematics Teachers in terms of Lesson Planning and Delivery

Indicators	WM	Int	Rank
The teacher's lesson goals and objectives for mathematics are clear and communicated at the start of the lesson.	2.99	HP	1
The sequence of activities in the lesson follows a logical progression that builds on prior knowledge.	2.87	HP	4.5
The teacher provides explanations that are easy to follow and understand.	2.80	HP	7
The pace of the lesson is appropriate for all students to learn the mathematics content.	2.96	HP	2
The teacher uses a variety of instructional strategies to teach math concepts.	2.87	HP	4.5
The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful.	2.81	HP	6
The teacher uses visuals, manipulatives, and technology effectively to support mathematical understanding.	2.89	HP	3
Average WM	2.88	Highly Proficient	

Note. WM refers to Weighted Mean and Int refers to Interpretation. The interpretation is based on: 3.26 to 4.00 as Very Highly Proficient (VHP); 2.51 to 3.25 as Highly Proficient (HP); 1.76 to 2.50 as Moderately Proficient (MP); 1.00 to 1.75 as Fairly Proficient (FP).

Lesson Planning and Delivery. As reflected in Table 2a, the level of teaching proficiency of mathematics teachers in terms of lesson planning and delivery as perceived by the learners and assessed though the survey were all interpreted as "Highly Proficient". Thus, the highest two indicators are "The teacher's lesson goals and objectives for mathematics are clear and communicated at the start of the lesson." 2.99 and "The pace of the lesson is appropriate for all students to learn the mathematics content."

2.96. The lowest two indicators are "The teacher provides explanations that are easy to follow and understand." 2.80 and "The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful." 2.81. The average weighted mean is 2.88 and the interpretation is "Highly Proficient".

The top ranked indicators likely reflect strong alignment between planning and student engagement, where clearly stated goals set a directional path and pacing maintains momentum conducive to conceptual development. While the lowest two ranked indicators revealed opportunities in delivering explanations that are easy to follow and in connecting mathematics to real-world or cross-curricular contexts, suggesting a need for clearer scaffolding and more meaningful contextualization. In general, the profile indicates solid instructional design focused on planning and pacing, with targeted enhancements in explanatory clarity and contextual applicability to elevate pedagogy further.

The findings suggest that mathematics teachers demonstrate a consistently high level of teaching proficiency in both lesson planning and delivery, as perceived by learners. The overall "Highly Proficient" rating indicated that teachers are generally effective in organizing and managing instruction. In particular, the highest-rated indicators showed that teachers are successful in establishing clear lesson goals and maintaining an appropriate pacing of instruction, which are essential for structured learning and helping students follow the flow of mathematical concepts.

However, the relatively lower scores though still within the "Highly Proficient" range highlight specific areas that may benefit from further enhancement. The results imply that while lessons are well-structured, some students may still experience difficulty fully grasping explanations, suggesting a need for more varied or simplified instructional strategies, such as the use of visual models, step-by-step demonstrations, or formative checks for understanding. Additionally, the lower rating on integrating real-world or cross-curricular contexts indicates that mathematics instruction may at times feel abstract, pointing to an opportunity for teachers to make learning more meaningful and relatable through practical applications and interdisciplinary connections.

Overall, mathematics teachers possess strong foundational teaching skills, particularly in planning and pacing, but could further strengthen instructional impact by refining clarity of explanations and increasing the use of contextualized learning experiences. These improvements could enhance students' conceptual understanding and engagement with mathematics. The result of the study opined that there is no doubt the need for a careful and thoughtful preparation before teaching. It is the golden opportunity for the teacher to think about how he/she would make knowledge, skills and values available and relevant to learners and be able to sustain their interest and attention all through the learning period. Good lesson planning is essential to the process of teaching and learning (Uwatt, 2019) cited in the study of Iroushu and Godwin (2022). Furthermore, the study of Juma (2024) emphasizes in relation to the result of the study that lesson plans typically involve setting clear learning objectives, outlining the content flow, and sequencing activities. This process encourages teachers to think critically about how information connects and how to present it in a logical and easy-to-understand manner. A well-structured lesson plan acts as a roadmap, guiding teachers through the presentation of information in a clear and organized way possible.

Most importantly, the result of the study can be attributed to the Six-stage Theory of Learning Mathematics. The theory emphasizes the importance of hands-on, experiential learning and the

progression of mathematical concepts from concrete to abstract by implementing not only stage 4, formal stage which help students develop a deeper understanding of mathematical concepts by engaging in abstract thinking and reasoning. Encourage them to apply mathematical principles to solve complex problems and explain their reasoning. Specifically, stage 5, transference stage which provide opportunities for students to apply their mathematical knowledge and skills in real-life situations. Connect mathematical concepts to other subjects or real-world scenarios to demonstrate their relevance and practicality.

Mastery of Content. The indicators as reflected in table 2b in terms of their rank are as follows: “The teacher’s lesson goals and objectives for mathematics are clear and communicated at the start of the lesson.” 3.03; “The teacher provides explanations that are easy to follow and understand.” 3.00; “The teacher uses a variety of instructional strategies to teach math concepts.” 2.98; “The pace of the lesson is appropriate for all students to learn the mathematics content.” 2.97; “The teacher uses visuals, manipulatives, and technology effectively to support mathematical understanding.” 2.97; “The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful.” 2.91; “The sequence of activities in the lesson follows a logical progression that builds on prior knowledge.” 2.88. The average weighted mean is 2.96 and the interpretation is “Highly Proficient” together with all the indicators presented.

The highest two indicators reflect strong alignment between instructional goals, explanations, and student engagement, suggesting that teachers establish clear aims at the outset and deliver approachable explanations that support conceptual grasp and steady progression through content. The lowest two indicators indicate opportunities to deepen instructional coherence through more consistent sequencing of activities and richer connections to real-world or cross-curricular contexts, which could enhance relevance and transfer of learning. In general, the pattern points to solid mastery of content with targeted avenues for strengthening scaffolding and contextual integration to further elevate mathematics instruction.

Table 2b

Level of Teaching Proficiency of Mathematics Teachers in terms of Mastery of Content

Indicators	WM	Int	Rank
The teacher’s lesson goals and objectives for mathematics are clear and communicated at the start of the lesson.	3.03	HP	1
The sequence of activities in the lesson follows a logical progression that builds on prior knowledge.	2.88	HP	7
The teacher provides explanations that are easy to follow and understand.	3.00	HP	2
The pace of the lesson is appropriate for all students to learn the mathematics content.	2.97	HP	4.5
The teacher uses a variety of instructional strategies to teach math concepts.	2.98	HP	3
The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful.	2.91	HP	6
The teacher uses visuals, manipulatives, and technology effectively to support mathematical understanding.	2.97	HP	4.5

Average WM	2.96	Highly Proficient

Note. WM refers to Weighted Mean and Int refers to Interpretation. The interpretation is based on: 3.26 to 4.00 as Very Highly Proficient (VHP); 2.51 to 3.25 as Highly Proficient (HP); 1.76 to 2.50 as Moderately Proficient (MP); 1.00 to 1.75 as Fairly Proficient (FP).

Inference from the indicators suggests that teachers consistently set clear lesson goals and deliver explanations that promote student understanding, which likely supports classroom clarity and concept acquisition; the findings of the study indicated that instructional strengths center on goal-setting and communicative clarity while weaker areas involve the sequencing of learning activities and the integration of real-world or cross-curricular contexts, indicating opportunities to enhance coherence and relevance; the conclusion is that teachers demonstrate a strong command of content delivery with focused needs for improving lesson sequencing and contextual application to further strengthen student learning outcomes. The result of the study can be grounded on stating that effective teaching demands more than just pedagogical content knowledge; it requires teaching competency a combination of knowledge, skills, and attitude that enables educators to fulfill their responsibilities effectively. Teacher competence significantly influences student quality in academic achievement, social skills, emotional well-being, and moral development, emphasizing the need for holistic professional development programs (Sajonia & Gabion, 2025). In addition, the study of Anyeta and Suglo (2024) believed that students that perform well in mathematics and show mastery of the subject are more likely to have teachers with a strong foundation in professional knowledge and are able to effectively convey knowledge to students through appropriate teaching practices and possess the confidence to teach any topic in the mathematics curriculum.
Furthermore, the Universal Design for Learning Theory emphasizes the necessity of creating educational environments that accommodate diverse learners' needs and preferences. This approach advocates for flexibility in teaching methods and materials, ensuring that all students, regardless of their individual differences, can access and engage with the content. By incorporating principles of universal design, educators can cultivate inclusive classrooms that promote equitable learning opportunities and foster motivation among all learners. Ultimately, this framework not only enhances educational outcomes but also reinforces the idea that every student has the potential to thrive when given the right support and resources.

In addition, applying this theory, teachers can tailor their instructional strategies to address the varied strengths and challenges of their learners, fostering a more inclusive learning environment. This approach not only empowers educators to design lessons that are accessible but also promotes active engagement and participation from students, ensuring that every learner can develop proficiency in numeracy. Furthermore, integrating Universal Design for Learning principles helps teachers effectively assess and respond to the individual progress of each student, allowing for targeted interventions that can enhance mathematical understanding. Ultimately, this theory serves as a vital resource for educators aiming to cultivate numeracy competence in diverse classrooms, supporting all students in reaching their full potential.

Classroom Management. In the same manner all the indicators assessed in this aspect were interpreted as “Highly Proficient”. In particular, “The teacher uses visuals, manipulatives, and technology effectively to support mathematical understanding.” 3.04; “The pace of the lesson is appropriate for all students to learn

the mathematics content." 3.02; "The teacher's lesson goals and objectives for mathematics are clear and communicated at the start of the lesson." 3.01; "The teacher uses a variety of instructional strategies to teach math concepts." 2.82; "The sequence of activities in the lesson follows a logical progression that builds on prior knowledge." 2.81; "The teacher provides explanations that are easy to follow and understand." 2.77; "The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful." 2.72. The average weighted mean is 2.88 and the interpretation is "Highly Proficient".
Strong performance in the top two indicators likely stems from teachers' routine use of visual aids, manipulatives, and technology coupled with established pacing strategies that keep lessons focused and transitions smooth. These strengths suggest familiarity with instructional tools and well-developed classroom procedures that promote student engagement and time management.

Table 2c

Level of Teaching Proficiency of Mathematics Teachers in terms of Classroom Management

Indicators	WM	Int	Rank
The teacher's lesson goals and objectives for mathematics are clear and communicated at the start of the lesson.	3.01	HP	3
The sequence of activities in the lesson follows a logical progression that builds on prior knowledge.	2.81	HP	5
The teacher provides explanations that are easy to follow and understand.	2.77	HP	6
The pace of the lesson is appropriate for all students to learn the mathematics content.	3.02	HP	2
The teacher uses a variety of instructional strategies to teach math concepts.	2.82	HP	4
The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful.	2.72	HP	7
The teacher uses visuals, manipulatives, and technology effectively to support mathematical understanding.	3.04	HP	1
Average WM	2.88	Highly Proficient	

Note. WM refers to Weighted Mean and Int refers to Interpretation. The interpretation is based on: 3.26 to 4.00 as Very Highly Proficient (VHP); 2.51 to 3.25 as Highly Proficient (HP); 1.76 to 2.50 as Moderately Proficient (MP); 1.00 to 1.75 as Fairly Proficient (FP).

The weaker indicators point to challenges in crafting clear, scaffolded explanations and in connecting mathematics to real-world or cross-curricular contexts, which may reflect limited professional development in contextualization, constraints on planning time, or an emphasis on coverage rather than application. Taken together, the pattern indicates effective classroom control and resource use alongside targeted needs for improved instructional clarity and relevance to deepen student understanding.

The inference from the indicators suggests that strengths in using visuals, manipulatives, and technology together with effective pacing reflect strong classroom management and instructional flow,

which likely support student engagement and timely progression through mathematics content. The findings indicate that clearer explanations and richer connections to real-world or cross-curricular contexts present opportunities for further development, pointing to gaps in instructional clarity and contextual relevance that could hinder deeper understanding if not addressed. The conclusion is that teachers demonstrate a high level of proficiency in managing mathematics instruction, with targeted needs to enhance the articulation of explanations and the integration of real-world contexts to bolster overall classroom effectiveness and student learning outcomes.

The study aligns with Juma (2024) in stating that a well-managed classroom fosters a safe, supportive, and motivated learning environment. It emphasizes establishing clear expectations, a positive learning climate, and proactive strategies to minimize disruptions, echoing similar elements of effective classroom management. The study also references Plessis (2024) in defining classroom management as the process of organizing, conducting, and maintaining activities to maximize academic goals and achievements. Stough and Montague (2015) cited in Plessis (2024) assert that effective teaching requires a properly managed and organized classroom and the ability to control misbehaviors to provide a conducive environment for emotional and intellectual growth. Taken together, these insights suggest that well-structured classroom management maximizes instructional time and supports diverse student needs.

Giving Assessment. The following presents the indicators for Giving Assessment and Evaluation arranged from highest to lowest with their corresponding weighted means, followed by the average weighted mean and its interpretation which were all “Highly Proficient”. The highest ranked indicator is “The teacher’s lesson goals and objectives for mathematics are clear and communicated at the start of the lesson.” With a weighted mean of 3.18. It is followed by the indicator “The teacher uses a variety of instructional strategies to teach math concepts.” with 3.00 weighted mean. While the lowest ranked indicators are “The teacher provides explanations that are easy to follow and understand.” and “The sequence of activities in the lesson follows a logical progression that builds on prior knowledge.” with 2.75 and 2.66 weighted mean respectively. Hence the average weighted mean obtained is 2.86 and interpretated as “Highly Proficient”.

Table 2d

Level of Teaching Proficiency of Mathematics Teachers in terms of Giving Assessment and Evaluation

Indicators	WM	Int	Rank
The teacher’s lesson goals and objectives for mathematics are clear and communicated at the start of the lesson.	3.18	HP	1
The sequence of activities in the lesson follows a logical progression that builds on prior knowledge.	2.66	HP	7
The teacher provides explanations that are easy to follow and understand.	2.75	HP	6
The pace of the lesson is appropriate for all students to learn the mathematics content.	2.86	HP	3
The teacher uses a variety of instructional strategies to teach math concepts.	3.00	HP	2

The teacher integrates real-world or cross-curricular contexts to make mathematics meaningful.	2.77	HP	5
The teacher uses visuals, manipulatives, and technology effectively to support mathematical understanding.	2.81	HP	4
Average WM	2.86	Highly Proficient	

Note. WM refers to Weighted Mean and Int refers to Interpretation. The interpretation is based on: 3.26 to 4.00 as Very Highly Proficient (VHP); 2.51 to 3.25 as Highly Proficient (HP); 1.76 to 2.50 as Moderately Proficient (MP); 1.00 to 1.75 as Fairly Proficient (FP).

The strong performance in the top two indicators likely reflects teachers' consistent emphasis on articulating lesson goals and deploying diverse instructional approaches, which promote clarity of purpose and multiple pathways for student understanding. The prominence of clear objectives suggests routine lesson planning and communicative practices that set expectations and guide assessment, while the use of varied strategies points to adaptability in addressing different learning styles and maintaining student engagement. The lower performance on sequencing activities and on providing easy-to-follow explanations suggests gaps in instructional scaffolding and in the articulation of procedural steps, perhaps arising from constrained planning time, insufficient emphasis on lesson flow, or limited training in structuring explanations for diverse learners. Collectively, the pattern indicates solid strengths in goal-setting and instructional variety alongside targeted needs for improving coherent lesson progression and clearer explanatory techniques to enhance student comprehension and transfer.

The reviewed studies collectively support the table's finding that teachers demonstrate high proficiency in assessment by emphasizing clear, purposeful tasks and goals as Corrêa and Haslam (2021) suggest. Ramaley (2007) reinforces that assessments should signal priority learning targets and inform both teaching and student learning, underpinning assessment as formative rather than merely summative. Ngunjiri (2022) outlines multiple functions of assessment, including diagnosis, guidance, feedback, and accountability, supporting diversified instructional strategies and supports. Paglomutan (2023) stresses that assessment data must reflect the hierarchical nature of mathematics and indicate what learners can do and what they are ready to learn, aligning with sequencing, pacing, and the use of manipulatives and technology. Go (2023) argues that well designed assessment tools drive tailored instruction and improvement, echoing the emphasis on assessment driven teaching practices.

The Six-stage Theory of Learning Mathematics provides a framework where assessment-driven instruction aligns with a progression from concrete to abstract, matching the table's emphasis on clear goals and structured lesson sequences. Stages 1 and 2 promote hands-on exploration and visual representations, supporting teachers' use of manipulatives and visuals reflected as high proficiency. Stages 3 and 4 introduce symbolic notation and formal reasoning, aligning with accurate measurement of student understanding and targeted feedback in assessment practices. Stage 5 connects mathematics to real life, mirroring the table's integration of real-world contexts to enhance meaning and motivation. Stage 6 fosters rigor and justification, echoing the assessment design principle of guiding students to articulate reasoning and justify solutions, underpinning the overall highly proficient practice observed.

Summary of the Level of Teaching Proficiency of Mathematics Teachers. The table revealed that the highest rating is identified in the aspect of mastery of content with the average weighted mean of 2.96, indicating that mathematics teachers are most proficient in the subject matter content which can be shown during its delivery. Followed by classroom management with an average weighted mean of 2.88 and lesson planning and delivery with average mean of 2.88 respectively. Meanwhile, the lowest weighted mean of 2.86 appears in the domain of giving assessment and evaluation, suggesting that some of the teachers should take a look at every aspect of giving assessment and point out consideration on the difference of the learners intellectually. The overall average weighted mean of 2.90 reflects a highly proficient performance across the different domains, with particular strength in the mastery of content. However, ongoing efforts should be given in managing assessment and evaluation of learners.

Table 2e

Summary of the Level of Teaching Proficiency of Mathematics Teachers

Aspects	AWM	Int	Rank
Lesson Planning and Delivery	2.88	HP	3
Mastery of Content	2.96	HP	1
Classroom Management	2.88	HP	2
Giving Assessment and Evaluation	2.86	HP	4
Overall Level	2.90	Highly Proficient	

The analysis shows that the strongest indicators of teaching proficiency are mastery of content and classroom management, reflecting teachers' solid command of mathematics concepts and effective classroom practices that support learning. The slightly lower yet still highly proficient indicators indicate that lesson planning and delivery and giving assessment and evaluation are strong but marginally less central to observed practice, suggesting that content mastery and classroom discipline are the core drivers of effective mathematics instruction. Overall, the general pattern points to a clustering of high proficiency across most indicators, implying that teachers consistently align planning, delivery, and assessment with disciplinary demands and student engagement. The gap between the top indicators and the sole distinctly lower indicator highlights that while assessment-related tasks are strong, real-time content mastery and classroom management more robustly underpin successful outcomes. In sum, the results suggest a coherent framework where deep mathematical understanding and well-managed classrooms anchor high proficiency, with planning and evaluation functioning as complementary yet slightly less dominant contributors.

The findings indicate that teachers possess strong content knowledge and maintain effective classroom environments, which together foster student learning and engagement. This suggests that instructional decisions are grounded in subject mastery and consistent management practices, enabling lesson delivery and meaningful learning experiences. Assessment and evaluation practices, while competent, appear somewhat less prominent as mechanisms for driving instruction and monitoring individual progress. The implication is that strengthening assessment use to inform targeted instruction could further enhance teaching effectiveness. In conclusion, the pattern of results reflects a professionally

capable teaching force whose deep content understanding and classroom control provide a solid foundation for improving assessment-driven pedagogical refinement.

The result of the study substantiated of what is included in DepEd Order No. 42, s. 2017, cited in the article written by Llego (2017) that the K to 12 Reform (R.A. 10533) in 2013 has changed the landscape of teacher quality requirements in the Philippines. The reform process warrants an equivalent supportive focus on teacher quality – high quality teachers who are properly equipped and prepared to assume the roles and functions of a K to 12 teachers. The following statements describes the breadth of 4 out of 7 Domains that are required by teachers to be effective in the 21st Century in the Philippines. Quality teachers in the Philippines need to possess the following characteristics.

6. Numeracy Competence of Learners

Numeracy is an essential skill that enables individuals to effectively use mathematics in everyday life. It goes beyond basic computational abilities, as it requires the application of mathematical concepts to real-life situations through problem-solving, critical thinking, and logical reasoning. A numerically competent individual is able to interpret data, analyze information, and make sound decisions based on mathematical understanding. In the context of education, developing learners' numeracy competence is crucial, as it equips them with the necessary skills to handle real-world challenges and become informed and responsible members of society.

The table below presents the result of the study along numeracy competence of the learners.

Representation. Using the teacher - made test, the result revealed that first among the different aspects along the level of numeracy competence of learners demonstrates that representation skills assessed through 10 items, yielded a mean score of 4.47 with a standard deviation (SD) of 1.28, indicating a relatively high and consistent performance among learners. The proficiency level (PL) is 44.68 marked as Developing (D). Representation aspect appears to be a relatively strong area but still requires targeted interventions to enhance learners' proficiency in effectively visualizing, modeling, or symbolizing numeracy concepts.

Table 3

Level of Numeracy Competence of Learners

Aspects	Items	Mean	SD	PL	Interpretation
Representation	10	4.47	1.28	44.68	D
Analysis	10	3.82	1.25	38.19	D
Computation	10	3.54	1.77	35.43	D
Problem Solving	10	3.47	1.11	34.68	D
Overall	40	15.30	3.90	38.24	Developing

Note: This table identifies the Level of Numeracy Competence of the students with Mean, SD, PL and its interpretation as 75.0 - 100 Proficient (P), 50.0 – 74.9 Approaching Proficient (AP), 25.0 – 49.9 Developing (D) and 0.00 – 24.9 Beginning (B).

The results suggests that learners are still developing their ability to effectively represent mathematical concepts, such as using symbols, diagrams, or models. Even as the most developed aspect it also highlights the need for instructional emphasis to strengthen learners' representational skills. The

variability in scores points to inconsistent understanding or application, which could be addressed through varied teaching approaches that focus on visual and symbolic representations.

From the findings, it can be inferred that while learners show emerging strength in representing mathematical concepts, their skills are not yet consistently applied across different contexts. This suggests that learners may understand certain representations but struggle to transfer or use them flexibly. Therefore, there is a need for more targeted and varied instructional strategies that reinforce the use of visual, symbolic, and model-based representations to build deeper and more consistent numeracy understanding.

These findings also are supported by Duval (2006) cited in the study of Mainali (2021) states that representation is something that stands for something else. A representation is a sign or combination of signs, characters, objects, diagrams, or graphs, and it can be an actual physical product or mental process. It also refers both to process and product—in other words, to the act of capturing a mathematical concept or relationships in some form or to the form itself. In fact, representation may be a combination of something expressed on paper, existing in the form of physical objects, and constructed arrangement of ideas in one's mind. The study of Duval (2006) cited in the study of Mainali (2024) further states that representations can also be signs and their complex associations, which are produced according to rules and which allow the description of a system, a process, a set of phenomenal. Thus, representations may denote and describe material objects, physical properties, actions and relationships, or objects that are much more abstract. Brinker (1996) cited in the study of Mainali (2021) defines representation, focusing on elementary mathematical concepts as follows: Representations refer to students' notations and pictures, already-made drawings such as pictures of portioned objects, and structured materials such as fraction strips and Cuisenaire rods. Structured in this case refers to materials that have been design for instruction of particular mathematical concepts.

Analysis. The analysis aspect with a mean score of 3.54 and an SD of 1.77, reflected a moderate performance with higher variability compared to other aspects. The Proficiency Level (PL) is 38.19 and the interpretation also indicates a developing level, which suggests that learners are beginning to analyze mathematical situations but may struggle with deeper understanding or critical examination.

The Analysis aspect has a mean of 3.82 which is slightly lower than representation aspect, with SD of 1.25 and PL of 38.19 indicates greater variability among learners' abilities to analyze mathematical information. The Proficiency Level status and the interpretation as Developing which confirms that many learners are still in the developing stage of analysis skills, such as interpreting data or identifying patterns. The higher Standard Deviation suggests some learners perform better than others, highlighting disparities in analytical thinking.

The result of the study in this particular aspect signaling a need for more targeted activities that foster critical thinking and deeper understanding of mathematical relationships. Improving analytical skills could significantly impact overall numeracy competence.

The result of the study is supported by the Universal Design for Learning Theory cited in the study of Rose et al., (2016) emphasizes the necessity of creating educational environments that accommodate diverse learners' needs and preferences. This approach advocates for flexibility in teaching methods and

materials, ensuring that all students, regardless of their individual differences, can access and engage with the content. By incorporating principles of universal design, educators can cultivate inclusive classrooms that promote equitable learning opportunities and foster motivation among all learners. Ultimately, this framework not only enhances educational outcomes but also reinforces the idea that every student has the potential to thrive when given the right support and resources.

Computation. The computation aspect has a mean of 3.54 with a standard Deviation (SD) of 1.77, which is comparable to analysis, but with slightly less variability. The Proficiency Level (PL) of 35.43 remains in the developing proficiency. The computation skills are relatively less developed, indicating that learners may face challenges in performing calculations accurately and efficiently. This suggests a need for reinforced practice through consistent worksheet and activities utilization and other instructional strategies targeted at improving computational fluency to elevate this foundational aspect of numeracy. The Proficiency Level rating of Developing suggests learners are still acquiring foundational computational skills, which are essential for solving more complex problems. Being ranked 4, Computation is the least developed among the four aspects but still indicates ongoing development.

The lower mean and Standard Deviation imply that basic computational tasks are being learned, but mastery and fluency require further reinforcement through practice and instruction. Strengthening computational skills is vital for improving overall numeracy competence.

The result of the study along this aspect is substantiated by the study of Russell (2000) cited in the study of Nelson and Powell (2018) state that to effectively perform different computations, students must have a strong understanding of mathematics facts and the place-value system Beyond the elementary grades, mastery of computation provides the foundation for more complex mathematics skills, such as problem solving and algebra. Because of the role of computation within higher level mathematics, computational fluency was named goal for all students, as outlined on national sets of mathematics standards (e.g., National Council of Teachers of Mathematics [NCTM], 2000). Because developing efficiency with computation is important for higher level mathematics, it is important to understand why students have difficulty with computation. Teachers frequently observed student deficits in computation of multiplication and division of whole numbers and computation involving fractions, decimals, and percentages. In addition, Bryant et al. (2000) cited in the study of Nelson and Powell (2018) also gathered teacher-reported data regarding computation difficulties. Teachers reported that behaviors within multistep problems and regrouping errors explained most of the variance between students with and without LD. Based on the idea that many students with LD struggle with many aspects of computation, researchers have introduced scoring techniques to identify specific errors in computation with the goal of providing teachers with valuable information to address computation deficits with instruction.

Problem Solving. Defined in the study of Scott (2025) Problem solving is the application of basic operations in order to move the initial state of a system to its goal state.

In the context of presenting the result of the study in terms of problem solving aspect, it indicated that learners generally perform lesser in this aspect with the Mean of 3.47, SD of 1.11 and PL of 34.68. The lower mean suggests that most learners are capable of solving basic problems related to numeracy however, finds it difficult when the problem is presented in a less to complicated way. The Proficiency

Level score and the Developing interpretation implies that while learners are demonstrating progress, there remains room for improvement to reach higher proficiency levels.

The result of the study strongly suggests that as problem solving the weakest aspect among the four, making it as the priority in enhancing students' performance and that targeted interventions should be pursued that could further enhance problem-solving skills, potentially moving learners towards the Proficient level. Proving the likelihood of the result in the study Meneses and Cañedo (2025) that solving problems is a crucial ability that everyone needs. Students who practice problem-solving in mathematics gain experience using their mathematical knowledge and abilities to solve difficulties in everyday life. Word problem- solving is one of the key elements of mathematical problem-solving that integrates real-world issues and applications. One reason presented in the study of Vidad and Quimbo (2021) in difficulties in solving Mathematical problems are mainly due to the lack of mathematical skills, characterized the difficulties in each of the four phases as follows. There is a difficulty in understanding the problem, if one cannot identify the type of problem; while the known and the unknown information, cannot recall facts or concepts, cannot define the terminologies and notations used, and cannot rephrase the problem in one's own words. There is a difficulty in devising a plan, if one cannot draw a picture, tables or charts out of the information; if one is unable to transform problems into mathematical sentences; and if one cannot look for patterns.

The result of study along this area is also corroborated in study of Hoogland (2016) which investigated how visual representations impact students' abilities to solve contextual mathematical problems, with a focus on the role these images play in shaping their understanding of numeracy. The findings indicate that students who engage with visual representations demonstrate improved problem-solving skills and a deeper comprehension of mathematical concepts compared to those who rely solely on textual information. The author concludes that incorporating visual aids into mathematics education can significantly enhance students' engagement and facilitate more effective learning outcomes. This research underscores the importance of integrating diverse teaching methods that cater to different learning styles in order to promote better understanding and application of mathematical principles. In contrary, Chapman (2025) described problem solving as engaging in a task for which the solution method is not known in advance, finding a way out of a difficulty, a way around an obstacle, attaining an aim which was not immediately attainable and it is a form of cognitive processing you engage in when faced with a problem and do not have an obvious method of solution.

In addition, the study of Sa'dijah et al. (2023) demonstrated foundational numeracy skills, there are significant challenges in applying these skills to complex problem-solving situations. The authors conclude that targeted interventions and instructional strategies are necessary to enhance students' abilities to tackle numeracy tasks effectively. This research highlights the critical need for educators to focus on developing deeper mathematical understanding and application skills within the curriculum to better prepare students for real-world challenges.

Furthermore, the study of Pustaka (1995) cited in the study of Mufliva et al., (2024) that a problem is a question or something that needs to be resolved (solved), meaning that typically, a problem takes the form of a question that needs to be answered and solved. This view is further reinforced by Suherman (2003) cited in the study of Mufliva et al., (2024) stated that mathematical problems contain situations that compel a person to want to resolve them. However, to solve these problems, students must possess

relevant strategic competencies in problem-solving. Students also need time to think of appropriate ways or strategies to solve these problems. Therefore, solving problems necessarily involves experiences in tackling various problems previously, meaning that students cannot immediately know the correct way to solve a problem without prior experience. Problems can be categorized into two types: routine problems and non-routine problems. Routine problems are those that can be solved by applying mathematical procedures that are the same or similar to the material recently learned. On the other hand, non-routine problems are those that cannot be solved by using procedures that are identical or similar to the material recently studied by students in class. Furthermore, according to Polya (1973) cited in the study of Mufliva et al., (2024), mathematical problems are divided into routine and non-routine problems. Routine problems involve the application of routine calculations, while non-routine problems require solutions that demand creative thinking and the application of certain heuristic strategies to understand the problem situation and find ways to solve it. Therefore, this research utilizes non-routine contextual problems that require appropriate strategies.

The study of Polya (1973) cited in the study of Mufliva et al., (2024) proposed steps for mathematical problem-solving, which include understanding the problem, devising a plan for solving the problem, carrying out the plan, and reviewing the solution. Through these steps, students are expected to solve the mathematical problems they encounter. Based on these insights, it can be concluded that providing problem-based tasks can certainly help students develop their strategic competencies, especially in solving mathematical problems. Therefore, to enhance students' mathematical problem-solving abilities, it is essential to formulate non-routine problems that require solutions through creative thinking and the application of specific heuristic strategies to understand the problem situation and find ways to solve it. It is also necessary to design supportive learning environments that allow students to engage in productive struggle.

Meanwhile, the overall mean score across all aspects is 15.30, with a combined Standard Deviation of 3.90, reflecting a moderate level of numeracy competence among learners. The overall Proficiency Level of 38.24 interpreted as Developing meaning learners are progressing but have significant areas for growth. The overall rank as Developing indicates that while learners have a solid foundation, comprehensive efforts are necessary to advance their skills across all aspects of numeracy, especially in areas like analysis and computation that lag slightly behind problem-solving and representation.
Furthermore, the overall mean score reflects a moderate level of numeracy competence among learners, categorized as Developing. The aggregate score indicates that while learners are making progress, they have not yet achieved proficiency in most aspects.

The cumulative data suggests a need for comprehensive instructional strategies that integrate problem solving, representation, analysis, and computation to elevate learners toward higher proficiency levels. The Developing status across the board underscores the importance of targeted interventions and continuous assessment to monitor progress and address specific weaknesses within each aspect. Focusing on these areas collectively that will likely lead to improved overall numeracy performance.

The result of the study best explained by the Teaching Competence Theory by Medley in 1977 cited in the study of Durand (2022). It says that teaching competence theory is used to explain how teachers develop attitudes, knowledge, skills, and agency in the workplace and the community. Medley believed

that when teachers create these critical attributes in their teaching career, they positively influence students' educational outcomes. The theory shows how teachers develop these essential elements of character building in students' lives and help students make decisions that could positively impact their academic journey. Additionally, Medley highlights that teachers could encourage students to be logical and strategic thinkers and purposeful and intentional learners in their classrooms.

Significant Relationship in the Teaching Proficiency of Teachers and Numeracy Competence of the Learners

The exploration of the relationship between teaching proficiency and learners' numeracy competence highlights the strong link between instructional quality and student outcomes. Teaching proficiency includes lesson planning and delivery, mastery of content, classroom management, and assessment practices, while numeracy competence involves learners' ability in representation, analysis, computation, and problem-solving. Understanding this relationship provides insight into how teachers' competencies directly influence the development of students' numeracy skills.

Table 4

Relationship between Teaching Proficiency and Numeracy Competence

Teaching Proficiency	Numeracy Competence	r_s-value	Int	p-value	Int
Lesson Planning and Delivery	Representation	0.065	VWC	0.537	N/A
	Analysis	0.029	VWC	0.780	N/A
	Computation	0.123	VWC	0.241	N/A
	Problem-solving	-0.003	VWC	0.978	N/A
Mastery of Content	Representation	0.063	VWC	0.548	N/A
	Analysis	-0.041	VWC	0.695	N/A
	Computation	0.037	VWC	0.725	N/A
	Problem-solving	-0.084	VWC	0.424	N/A
Classroom Management	Representation	0.054	VWC	0.604	N/A
	Analysis	0.201	VWC	0.053	N/A
	Computation	0.033	VWC	0.751	N/A
	Problem-solving	0.233*	WC	0.025	Sig.
Giving Assessment and Evaluation	Representation	-0.203	VWC	0.052	N/A
	Analysis	-0.199	VWC	0.056	N/A
	Computation	-0.118	VWC	0.260	N/A
	Problem-solving	-0.024	VWC	0.822	N/A
Overall		0.036	Very Weak Correlation	0.734	Not Applicable

Note. r_s-value refers to Spearman rho value,Int. refers to interpretation, Sig. refers to Significant, N/A refers to Not Applicable, and Sig. refers to Significant. The r_s-value interpretation is based on the following 0.81 to 0.99 as Very Strong Correlation (VSC); 0.61 to 0.80 as Strong Correlation (SC); 0.41 to 0.60 as Moderate Correlation (MC); 0.21 to 0.40 as Weak Correlation (WC); and 0.01 to 0.20 as Very Weak Correlation (VWC). While the p-value is interpreted as Significant when < 0.05.

The table shows all p-values for the paired aspects exceed the typical alpha level of 0.05, indicating no significant differences in Teaching Proficiency across the examined pairs. Specifically, every comparison—from Lesson Planning and Delivery, Mastery of Content, Giving Assessment and Evaluation—yields p-values well above 0.05 except on the aspect of Classroom Management in the Problem solving area. The consistent N/A label across most of all comparisons confirms that no pair shows a meaningful deviation in proficiency. Overall, the data suggest a similar level of proficiency across all three aspects and their pairings.

These results imply a uniform distribution of teaching proficiency across the multifaceted domains considered.

The absence of significant differences might reflect a balanced emphasis in professional preparation or ongoing development, where lesson planning and deliver, mastery of content, classroom management and giving of assessment and evaluation are cultivated in parallel except on the area of classroom management to problem solving aspect.

Additionally, the consistently non-significant results across all pairings reduce concerns about potential weak links between specific domains. However, interpretation should consider the context and whether the instruments capture subtle distinctions intended by the program. From a statistical perspective, only one of the paired comparisons reached conventional significance with ($p > 0.05$). The uniform non-significance almost across pairing points to a potentially homogeneous proficiency profile among participants. It may also indicate that the scales used are not sufficiently granular to detect small but meaningful differences. In light of the data, there is no evidence of significant differences in Teaching Proficiency among any of the paired aspects of lesson planning and delivery, mastery of content, giving assessment and evaluation except on the aspect of classroom management and problem solving.

The weak correlation suggests a cohesive program where all key domains are being nurtured similarly. If the goal is to differentiate proficiency more finely, future work should consider increasing sample size, refining measurement sensitivity, or exploring additional variables that might reveal subtler distinctions.

The result is substantiated parallel to the study by Kleickmann et al. (2015) investigated the relationship between content knowledge and pedagogical content knowledge among Taiwanese and German mathematics teachers. The findings revealed that while both groups displayed a high level of content knowledge, significant differences existed in their pedagogical content knowledge, reflecting varying teaching practices and educational contexts. The researchers concluded that strengthening pedagogical content knowledge can enhance teaching effectiveness, suggesting targeted professional development

tailored to each country's educational framework. The study emphasizes the importance of both types of knowledge in improving mathematics instruction and student learning outcomes.

Kandeel (2016) found significant gaps in basic education teachers' proficiency in key skills for teaching mathematics, such as problem-solving, lesson planning, and classroom management, emphasizing the need for targeted professional development to improve these areas. The study underscores the importance of ongoing training to bridge the gap between teacher skills and the demands of effective mathematical instruction. Similarly, Paglomutan (2023) highlighted the critical role of assessment practices in high school mathematics, noting that effective assessments help teachers identify student needs and support student self-evaluation. The study emphasized that well-designed assessment strategies directly influence student performance and learning outcomes. Libiado and Canuto (2023) focused on teachers' ability to utilize various assessment methods to determine learning needs, which can impact student grades and guide instructional decisions. They also pointed out that many teachers rely heavily on summative assessments, whereas diagnostic and formative assessments are essential for monitoring progress and informing teaching, urging teachers to actively select assessment types based on their objectives.

Applying the Teaching Competence Theory, the study examines the relationship between teachers' teaching proficiency and learners' numeracy skills, emphasizing that effective instruction plays a vital role in developing students' numerical understanding. Teaching proficiency includes aspects such as lesson planning, content mastery, classroom management, and assessment practices, which are essential for fostering an environment conducive to learning. The findings indicate that there are no significant differences in teaching proficiency across various domains, suggesting a balanced development of skills among teachers. This consistency reflects a professional focus on multiple facets of teaching, with only a slight exception in classroom management related to problem-solving. The weak correlation observed implies that these teaching areas are cultivated uniformly, highlighting the importance of holistic professional growth to enhance student numeracy outcomes.

The Influence of Teaching Proficiency of Teachers on the Numeracy Competence of the Learners in Mathematics

The results in Table 4 indicated that the overall relationship between teaching proficiency and learners' numeracy competence is very weak and not statistically significant ($r = 0.036$, $p = 0.734$). This suggests that, in general, the teachers' proficiency across lesson planning and delivery, mastery of content, classroom management, and assessment and evaluation do not have a strong direct influence on the numeracy competence of learners in Mathematics. Most of the paired correlations fall under very weak correlation (VWC) and are not significant, implying that improvements in these teaching domains may not automatically translate into measurable gains in students' numeracy skills within the scope of this study.

However, an important exception is observed in the relationship between classroom management and problem-solving, which shows a weak but statistically significant correlation ($r = 0.233$, $p = 0.025$). These finding highlights that among the domains of teaching proficiency, classroom management plays a more meaningful role in influencing learners' ability to solve mathematical problems. Effective

classroom management may create a structured and supportive learning environment that encourages participation, focus, and critical thinking—factors that are essential in developing problem-solving skills in Mathematics.

On the other hand, the absence of significant relationships in areas such as lesson planning, mastery of content, and assessment may indicate that these competencies, while important, might not independently impact numeracy competence unless combined with other factors such as learner motivation, prior knowledge, or instructional strategies. It may also suggest that the level of teaching proficiency across these domains is relatively uniform, limiting variability and reducing the likelihood of detecting strong correlations.

The findings imply that teaching proficiency, as a whole, does not significantly influence the numeracy competence of learners in Mathematics, as evidenced by the overall very weak and non-significant correlation. This suggests that improvements in teachers' skills in lesson planning, content mastery, and assessment alone may not be sufficient to produce measurable gains in learners' numeracy performance. However, the significant relationship between classroom management and problem-solving indicates that the learning environment plays a crucial role in developing students' ability to solve mathematical problems. It can be inferred that when teachers effectively manage the classroom and support learners during difficulties, students are more likely to engage, think critically, and perform better in problem-solving tasks. Therefore, while teaching proficiency remains important, other factors such as classroom environment, student engagement, and possibly learner-related variables may have a stronger influence on numeracy competence. Strengthening classroom management practices, alongside integrating effective instructional strategies, may yield better outcomes in improving learners' mathematical skills.

Recent studies highlight that the effectiveness of teaching proficiency in Mathematics depends not only on teachers' knowledge and instructional practices but also on how these are applied to support learners' development of mathematical proficiency (Ngu & Phan, 2024). Research further suggests that numeracy competence is influenced by multiple interacting factors, including prior knowledge and learning conditions, which may explain weak direct correlations with teaching variables alone (Chang, 2023). Moreover, responsive and adaptive teaching practices have been identified as essential in improving students' mathematical understanding and engagement (Alsina et al., 2025). Studies also show that innovative and student-centered teaching strategies can positively affect learners' mathematical performance when effectively implemented (Cabrera, 2024). Additionally, recent findings emphasize that cognitive and metacognitive factors significantly contribute to numerical proficiency, indicating that teaching proficiency must be complemented by learner-centered approaches (Derequito et al., 2025).

Based on the findings that teaching proficiency has a generally weak and non-significant relationship with learners' numeracy competence except in the area of classroom management and problem-solving, the schools should strengthen teachers' classroom management and problem-solving strategies, as this domain showed a significant influence on learners' numeracy skills. Training programs, workshops, and mentoring sessions may be conducted to help teachers create more structured, engaging, and supportive learning environments that promote mathematical thinking and active participation. Furthermore, teachers are encouraged to adopt more learner-centered and interactive teaching approaches

in Mathematics. While proficiency in lesson planning, content mastery, and assessment is evident, integrating strategies such as collaborative learning, differentiated instruction, and real-life problem-solving activities may enhance the impact of these competencies on students' numeracy development. School administrators on the other hand, may consider reviewing and enhancing existing instructional practices and assessment tools to ensure they are sensitive enough to capture meaningful improvements in both teaching proficiency and learners' numeracy competence. This includes the use of more varied and performance-based assessments that measure higher-order thinking skills. further studies should be conducted to explore other factors that may influence numeracy competence, such as students' motivation, prior knowledge, socio-economic background, and access to learning resources. Since teaching proficiency alone showed limited direct influence, examining these variables may provide a more comprehensive understanding of learners' performance in Mathematics.

Lastly, continuous professional development programs should be sustained and aligned with current trends in Mathematics education. Emphasis should be placed not only on improving teaching competencies but also on how these competencies can be effectively translated into improved student learning outcomes, particularly in numeracy and problem-solving skills.

Intervention Proposal

The formulation of the intervention proposal with the primary objective focusing on enhancing the Teaching Proficiency of Mathematics teachers to develop numeracy outcomes of the learners. Patterson and Xu (2020) wrote in their article that when children are in classrooms where these strands of proficiency are developed together, they are able to build a stronger understanding of both mathematical concepts and procedures and together were supported by knowledgeable and caring teachers, mathematical proficiency builds capacity for future learning and connections. To explore the development of an intervention for building students' numeracy and mathematical proficiency, they implemented a project, entitled "Supporting Strategies for Building Numeracy in Grades K-3," that focuses on building capacity of educators to identify and support high-level instructional practices that result in improved mathematical learning in the elementary grades. Specifically, the project sought to prepare teachers and students in building numeracy.

In the context of this study, following the Modified ADDIE Model the development process transforms the conceptual framework into the implementation of the proposed project entitled "Project NUMERO: Nurturing Teachers' Skills to Upgrade and Develop Numeracy Outcomes.

The analysis phase was based on the study's findings, which highlighted that all aspects of numeracy competence were rated as "developing." This indicates that learners are still in the early stages of mastering these skills and need further support. These areas were identified as the primary targets for instructional intervention. Addressing these gaps is essential to improve overall numeracy proficiency among learners. The findings emphasize the need for focused teaching strategies to enhance these developing skills.

In the design phase, Project NUMERO was developed to support mathematics teachers by improving their understanding of essential numeracy skills. The project also aims to equip teachers with research-based pedagogical approaches to enhance their instruction. By strengthening teachers' content

knowledge and teaching strategies, the initiative seeks to improve students' numeracy skills. The overall goal is to create a positive impact on student learning outcomes in mathematics. This focused approach aims to address gaps in teaching practices and promote more effective instruction.

The development phase involved the finalization of the proposal and the indicated activities. Through a series of interactive workshops, peer collaboration sessions, and classroom-based mentoring, Project NUMERO will develop teachers' instructional skills, focusing on how to make numeracy lessons more engaging, contextualized, and effective. The program will introduce innovative tools and methods including manipulatives, technology integration, and differentiated instruction to help teachers reach all types of learners. It will also promote regular reflection, assessment, and feedback practices to monitor teacher growth and ensure continuous improvement. Beyond skills development, the project aims to foster a positive attitude toward numeracy teaching by creating a supportive environment for experimentation, growth, and collaboration.

7. Conclusion

Mathematics teachers demonstrate the highest level of proficiency in subject matter content, classroom management, and lesson planning and delivery; however, they show comparatively lower proficiency in assessment and evaluation. This suggests that while teachers are strong in delivering and organizing instruction, they need further development in designing, implementing, and interpreting assessments to effectively measure and support learner progress. Meanwhile, learners exhibit developing competence in representation, analysis, computation, and problem-solving, indicating that they possess emerging skills but have yet to achieve consistent and independent mastery of numeracy skills. Consequently, this performance underscores the need for strengthened and targeted instructional support to enhance their numeracy competence. Furthermore, the weak correlation between teachers' proficiency in lesson planning, content mastery, and classroom management, and learners' numeracy outcomes suggests that current teaching practices have limited direct impact on improving numeracy skills; nevertheless, the significant relationship between classroom management and problem-solving indicates that improving classroom management could play a crucial role in developing learners' problem-solving abilities. Additionally, the overall teaching proficiency demonstrates a very weak and non-significant influence on learners' numeracy competence, implying that improvements in lesson planning, content mastery, and assessment alone are insufficient. Instead, the findings highlight that an effective and well-structured learning environment, primarily fostered through strong classroom management, is essential in developing learners' problem-solving skills. Based on these results, an intervention proposal will be formulated to address the numeracy competence of the students.

8. Recommendation

Weak results in assessment and evaluation can be effectively addressed by strengthening both the design and implementation of assessment practices; consequently, school administrators, curriculum developers, and teachers are encouraged to clearly define and communicate learning objectives and ensure that all

assessment tasks align closely with these goals. Moreover, a balanced use of formative and summative assessments should be promoted to provide a comprehensive picture of learner performance, while also ensuring that assessments are valid, reliable, and appropriate for learners' levels. Teachers should, in addition, provide timely, specific, and constructive feedback to help students identify their strengths and areas for improvement, and use assessment data to guide instructional decisions and targeted interventions. Likewise, school administrators should support continuous professional development by offering training on effective assessment strategies, as well as opportunities for collaboration and reflection among teachers; furthermore, regular review and refinement of assessment practices should be institutionalized to ensure consistency, fairness, and effectiveness. Through these combined efforts, assessment results can serve not only as measures of learning but also as tools for improving instruction and enhancing overall student achievement. To address learners' developing competence in representation, analysis, computation, and problem solving, teachers, school administrators, and curriculum planners are encouraged to strengthen instruction through guided practice and targeted support that promote step-by-step understanding; for example, instruction should begin with concrete examples, visual representations, and real-life contexts to build strong conceptual foundations before progressing to more abstract tasks. Teachers should provide structured opportunities for learners to explain their thinking, analyze errors, and apply learned strategies across diverse problem situations, thereby deepening understanding and building confidence. Additionally, regular formative assessment and timely, constructive feedback should be consistently implemented to monitor progress and address learning gaps; in line with this, small-group interventions and differentiated activities are recommended to cater to diverse learning needs. Moreover, school administrators and curriculum planners should support these efforts by providing adequate resources, training, and instructional materials aligned with these strategies. Through these combined efforts, learners can be effectively guided from developing competence toward consistent, independent, and higher-level performance. Furthermore, to improve the weak correlation between teaching proficiency and learners' numeracy outcomes, school administrators, curriculum planners, and teachers are advised to adopt a more coherent and focused instructional approach; teachers should strengthen the alignment between lesson objectives, instructional strategies, and numeracy outcomes, ensuring that lesson planning and delivery explicitly target key skills such as representation, analysis, computation, and problem solving. Professional development programs should be prioritized to enhance teachers' content mastery and equip them with evidence-based numeracy strategies, while also promoting reflective practice that links instructional decisions to learner performance. Additionally, given the significant relationship between classroom management and problem-solving skills, teachers should consistently implement effective classroom management practices to foster structured, supportive, and engaging learning environments that encourage higher-order thinking. School leaders and curriculum planners should support these initiatives by providing necessary training, resources, and monitoring mechanisms, while gradually reinforcing improved planning and content-focused instruction. Ultimately, these coordinated actions can strengthen and sustain learners' overall numeracy competence. Lastly, it is recommended that school administrators, curriculum developers, and Mathematics teachers adopt a targeted and integrated approach to improving learners' numeracy skills; while enhancing lesson planning, content mastery, and assessment remains important, these should be aligned with strategies that directly support numeracy development, especially problem-solving. Teachers should prioritize creating effective classroom management and engaging learning environments that promote active participation and higher-order thinking. Continuous professional development should also be provided to equip teachers with evidence-based instructional

strategies, and administrators should support regular monitoring and evaluation to ensure that teaching practices lead to improved learner outcomes. Finally, the school should approve the implementation of Project NUMERO, which aims to support this vital work by enhancing teachers' understanding of core numeracy skills and providing research-based pedagogical approaches; by strengthening teachers' mastery of content and strategies, the project will contribute directly to improved numeracy outcomes among students.

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