Instructional Skills and Work-Based Performance of Junior High School Mathematics Teachers: Basis for Strategic Intervention Plan

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ABSTRACT

Introduction

Mathematics education plays a vital role in developing learners' critical thinking, problem-solving, and analytical skills. Despite the implementation of various instructional innovations and educational reforms, improving students' mathematics achievement remains a continuing challenge. This highlights the need to strengthen teachers' instructional competencies, as effective teaching is a key factor in promoting meaningful learning and improving educational outcomes.

Although previous studies have established the effectiveness of different teaching strategies and intervention materials, limited research has explored the relationship between teachers' instructional skills and their work-based performance, particularly among junior high school mathematics teachers. Understanding this relationship is important because teachers' ability to plan, deliver, and assess instruction is expected to influence not only classroom effectiveness but also their overall professional performance.

In response to this gap, this study examined the instructional skills and work-based performance of junior high school mathematics teachers in the First District of Quezon City. Specifically, it determined the relationship between these variables and used the findings as the basis for developing a data-driven Strategic Intervention Plan aimed at enhancing instructional competence, strengthening professional performance, and ultimately improving the quality of mathematics teaching and learning.

Objectives

This study aimed to assess the instructional skills and work-based performance of junior high school mathematics teachers and determine the relationship between these variables. Specifically, it sought to identify the teachers' strengths and areas for improvement based on the Classroom Observation Tool (COT) and the Individual Performance Commitment and Review Form (IPCRF). The findings were used as the basis for developing a data-driven Strategic Intervention Plan designed to enhance instructional competence, strengthen professional performance, and improve the quality of mathematics instruction and learner outcomes.

Methods

This study employed a descriptive-correlational research design to assess the instructional skills and work-based performance of junior high school mathematics teachers and determine the relationship between these variables. Using purposive sampling, data were collected from 100 respondents, consisting of junior high school mathematics teachers and school administrators from selected public schools in the First District of Quezon City. Teachers' instructional skills were assessed using the Classroom Observation Tool (COT), while work-based performance was measured through the Individual Performance Commitment and Review Form (IPCRF), supplemented by administrators' evaluations and two years of performance records. Descriptive statistics and correlation analysis were used to analyze the data and provide the basis for developing a Strategic Intervention Plan.

Results And Discussion

The findings revealed that junior high school mathematics teachers demonstrated very high instructional skills, with administrators consistently giving slightly higher ratings than the teachers themselves. Teachers excelled in content knowledge, instructional delivery, classroom management, assessment practices, and learner engagement, particularly in demonstrating mastery of mathematical concepts, providing clear instructions, maintaining a positive classroom environment, and ensuring fairness in assessment. However, relatively lower ratings in technology integration, differentiated instruction, connecting lessons to prior knowledge, and the use of varied assessment strategies indicate areas requiring further professional development.

The results also showed that teachers attained Very Satisfactory work-based performance, while administrators rated their performance between Very Satisfactory and Outstanding. Teachers performed strongly in content knowledge and pedagogy, learning environment, curriculum planning, professional engagement, and school-related responsibilities. Nevertheless, the findings identified opportunities for improvement in applying professional learning, using assessment results to inform instruction, leading school initiatives, and addressing diverse learner needs. Heavy workload limited instructional resources, learner diversity, and insufficient professional development opportunities emerged as the most common challenges affecting instructional effectiveness.

Correlation analysis revealed a strong positive and statistically significant relationship between instructional skills and work-based performance ($r = 0.72$, $p < 0.05$), indicating that higher instructional competence is associated with better professional performance. Based on these findings, a Strategic Intervention Plan focusing on instructional support, technology integration, differentiated instruction, professional development, workload management, and continuous monitoring was developed. The proposed plan was rated Highly Acceptable by administrators, Education Program Supervisors (EPS), and Public Schools District Supervisors(PSDS), emonst rating its relevance, feasibility, and potential to enhance mathematics instruction and teacher performance.

Conclusion

The study concluded that junior high school mathematics teachers possess strong instructional skills and demonstrate very satisfactory work-based performance, as validated by both teacher and administrator assessments. A strong positive relationship between instructional skills and work-based performance confirms that enhanced instructional competence contributes to improved professional performance. However, challenges related to workload, limited instructional resources, learner diversity, technology integration, and adaptive assessment highlight the need for continuous professional development and institutional support. The proposed Strategic Intervention Plan, which was rated Highly Acceptable by administrators, Education Program Supervisors, and Public Schools District Supervisors, provides a feasible and evidence-based framework for strengthening instructional competence, addressing identified gaps, and improving the quality of mathematics instruction and learner outcomes.

Finally, I dedicate this work to my students and to all mathematics educators, with the hope that this study will contribute to the continuous improvement of mathematics teaching and learning.

THE PROBLEM AND ITS BACKGROUND

Introduction

Mathematics education has long been recognized as a cornerstone of intellectual development, logical reasoning, and problem-solving across societies. It is not simply a school subject but a discipline that cultivates analytical thinking and prepares learners for complex decision-making in both academic and real-life contexts. Scholars have consistently argued that mathematics fosters critical thinking, creativity, and lifelong learning skills, making it indispensable in the 21st-century knowledge economy (Kilpatrick, Swafford, & Findell, 2001). Despite this recognition, mathematics achievement remains a persistent challenge across diverse educational systems, prompting scholars and policymakers to explore innovative pedagogical approaches that can enhance student

engagement and performance.

One such approach is problem-based learning, which situates mathematical concepts within authentic, real-world problems. Boye and Agyei (2023) demonstrated that problem-based learning strategies significantly improved the teaching and learning experiences of pre-service teachers in Ghana. Their study highlighted how contextualized problem scenarios fostered deeper engagement, collaborative learning, and improved conceptual understanding. This finding reflects a broader global consensus that traditional, lecture-based methods often fail to sustain learner motivation, while interactive and inquiry-driven approaches can transform mathematics classrooms into spaces of active exploration (Hmelo-Silver, 2004). The Ghanaian case illustrates the global relevance of effective instructional methods in addressing challenges in mathematics education, reinforcing the universal need to adopt strategies that cultivate both academic performance and higher-order thinking skills.

In Asia, similar challenges have been documented. Studies in Malaysia and Indonesia reveal that students often struggle with abstract mathematical concepts, leading to low performance in international assessments such as TIMSS and PISA (Mullis, Martin, Foy, & Hooper, 2020). Comparative studies show that while East Asian countries such as Singapore, Japan, and South Korea consistently perform at the top of international rankings, many Southeast Asian nations continue to face systemic challenges in mathematics education (OECD, 2019). These disparities highlight the importance of adopting context-sensitive strategies that respond to local realities while drawing on global best practices. The regional discourse emphasizes that mathematics education cannot be divorced from broader socio-economic and cultural contexts. For example, in Indonesia, Putra & Retnawati (2021) found that student motivation and teacher preparedness were critical determinants of mathematics achievement, echoing findings from other developing contexts. Similarly, in Vietnam, Nguyen(2022) highlighted the role of curriculum alignment and teacher training in sustaining high performance despite resource constraints. These regional insights reinforce the argument that while global pedagogical innovations such as problem-based learning are valuable, their effectiveness depends on how they are adapted to local conditions.

In the Philippine context, mathematics performance among students has been a persistent concern, with various factors influencing achievement levels. Apus & Quirap (2024) identified multiple determinants affecting mathematics performance, ranging from instructional strategies and teacher preparedness to student motivation and resource availability. Their study emphasized the importance of designing intervention plans tailored to these challenges, reflecting the broader global discourse on the necessity of context-sensitive approaches in mathematics education. Addressing these factors is crucial not only for bridging performance gaps but also for ensuringequitable access to quality education in the Philippines. The Philippine case demonstrates that while global insights are instructive, localized realities require interventions that are responsive to the specific challenges faced by Filipino learners.

A promising localized strategy is the use of Strategic Intervention Materials (SIMs), which provide targeted support by simplifying complex concepts and addressing least mastered competencies. Borabo and Dio (2025) found through meta-analysis that SIMs effectively improve Filipino students' performance in science and mathematics. These findings establish SIMs as an evidence-based intervention suited to Philippine classrooms, particularly in addressing resource limitations and diverse learner needs. Integrating SIMs with global approaches such as problem-based learning can strengthen mathematics instruction and support the development of responsive intervention plans.The integration of global and local perspectives highlights the need for comprehensive interventions that connecteducational theories with classroom practice. International research supports problem-based learning and inquiry-driven approaches, while Philippine studies emphasize contextualized materials such as SIMs. These findings indicate that mathematics education reform should be globally informed and locally responsive, focusing not only on academic achievement but also on critical thinking, inclusivity, and lifelong learning.

THEORETICAL FRAMEWORK

This study is anchored on several foundational theories that collectively explain how instructional skills influence the work-based performance of junior high school mathematics teachers. Vygotsky's **Social**

Constructivism (1978) emphasizes that learning occurs through social interaction and collaboration. In the context of mathematics teaching, this theory highlights the importance of teachers engaging students through interactive strategies. Its relevance to the study lies in showing that teachers' instructional skills—particularly their ability to facilitate meaningful classroom interactions—directly affect both student learning outcomes and the teachers' own professional performance.

Bloom's **Mastery Learning Theory (1968)** underscores the importance of systematic instruction, assessment, and feedback. For mathematics teachers, this theory is highly relevant as it provides a framework for ensuring that students achieve mastery of foundational concepts before progressing to more complex topics. The connection to the study is clear: teachers who apply mastery learning principles demonstrate strong instructional competence, which in turn enhances their work-based performance by meeting educational standards and improving student achievement.

Gagné's **Conditions of Learning (1965)** further reinforce the role of structured and organized instruction in effective teaching. His model outlines the sequence of instructional events necessary forlearning, such as presenting objectives, guiding practice, and providing reinforcement. This is directly relevant to the study because mathematics teachers who design lessons following these conditions exhibit instructional skills that not only improve student comprehension but also reflect positively on their professional performance.

Finally, Campbell's **Performance Theory (1990)** explains that work performance is a function of skills, motivation, and work context. This theory is particularly aligned with the study as it directly connects instructional skills to teachers' work-based performance. It emphasizes that mathematics teachers' effectiveness is shaped not only by their instructional competence but also by their motivation and the institutional environment in which they operate. Together, these theories provide a strong foundation for the study, justifying the need to examine instructional skills as a basis for designing a strategic interventionplan that enhances the work-based performance of junior high school mathematics teachers.

CONCEPTUAL FRAMEWORK

The conceptual framework of this study illustrates a systematic and cyclical process that begins with assessment and culminates in the development of a Strategic Intervention Plan (SIP) aimed at improving mathematics instruction among junior high school teachers in the First District of Quezon City. It establishes a logical flow from data-driven evaluation to evidence-based intervention, ensuring that instructional improvement is both measurable and sustainable. The framework begins with the assessment of instructional competence through the Classroom Observation Tool (COT) and the evaluation of professional performance using the Individual Performance Commitment and Review Form (IPCRF). Theseinstruments collectively provide a comprehensive understanding of how teachers deliver mathematics instruction, manage classroom environments, engage learners, and demonstrate professional growth. Alongside these measures, the framework considers the contextual challenges encountered by teachers—such as resource limitations, workload pressures, and learner diversity—which serve as critical inputs for the improvement process.

The process component of the framework involves a series of interconnected stages that transform raw data into actionable insights. It begins with instrument validation to ensure the reliability and accuracy of the tools used in assessing instructional and performance indicators. This is followed by systematic data collection and analysis, where COT ratings, IPCRF scores, and identified challenges are examined through descriptive and correlational techniques. The analysis phase determines the strength and nature of the relationship between instructional skills and work-basedperformance, revealing areas of alignment and disparity. Gap identification then isolates specific performance deficiencies and instructional weaknesses, forming the basis for targeted interventions. Subsequently, plan evaluation through stakeholder review ensures that proposed strategies are contextually appropriate and institutionally feasible. Each stage of the process is designed to build upon the previous one, creating a coherent pathway from assessment to intervention.

The output of the framework is the Strategic Intervention Plan (SIP), which serves as the central product of the research process. The SIP is evidence-based, context-specific, and adaptable, addressing the instructional

and performance gaps identified through analysis. It functions as a structured guide for enhancing teaching practices, professional engagement, and learner outcomes in mathematics. Unlike static intervention models, the SIP is embedded within a continuous improvement cycle. Implementation is followed by monitoring and evaluationto assess its effectiveness, stakeholder reflection to gather qualitative insights, iterative revision to refine strategies based on feedback, and reintegration of findings into subsequent assessments. This feedback and refinement loop ensures that the SIP evolves dynamically, responding to emerging needs and maintaining relevance over time.

In essence, the framework operates through an Input–Process–Output model reinforced by a feedback mechanism. The inputs—comprising instructional skills, work-based performance, and identified challenges—feed into the process of validation, data collection, analysis, gap identification, and plan evaluation. The output, represented by the Strategic Intervention Plan, encapsulates the study's goal of improving instructional quality and professional performance. The feedback loop closes the cycle by reintegrating evaluation results and stakeholder insights into the next iteration of assessment, thereby sustaining continuous professional growth. This cyclical design reflects the study'scommitment to long-term educational improvement, ensuring that each phase contributes to a more refined and responsive approach to mathematics instruction.

Overall, the conceptual framework aligns empirical rigor with practical relevance. It integrates quantitative assessment and qualitative feedback within a unified structure that promotes accountability, adaptability, and sustainability. By grounding the SIP in validated data and iterative refinement, the framework provides a defense-ready model that not only addresses current instructional challenges but also establishes a replicable system for ongoing teacher development and institutional planning.

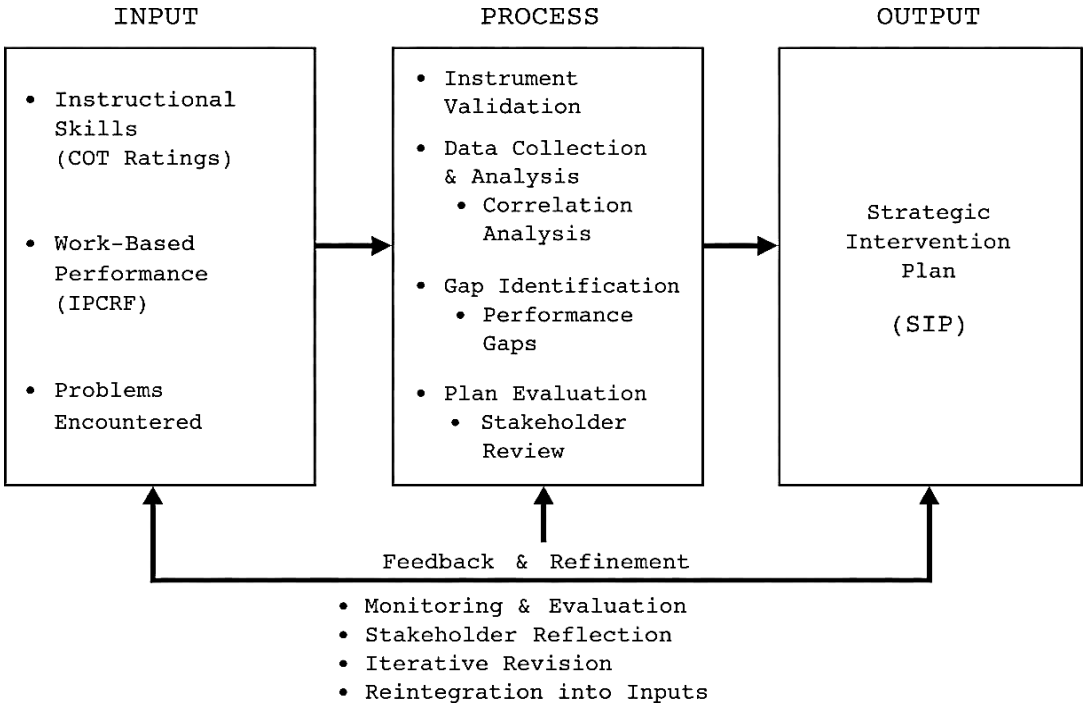

Figure 1.Research Paradigm of the Study

Statement of the Problem

The study aims to assess the instructional skills and work-based performance of junior high school mathematics teachers as basis for strategic intervention plan.

The study seeks to answer the following sub-problems:

1. How do the school administrators and teachers themselves assess their instructional skills in teaching mathematics in terms of:

1.1. Content Knowledge and Application

1.2. Instructional Delivery / Teaching-Learning Process

1.3. Classroom Management and Learner Behavior

1.4. Learner Engagement and Inclusivity

1.5. Assessment and Feedback

2. What is the level of work-based performance of junior high school mathematics teachers as reflected in their Individual Performance Commitment Review Form (IPCRF) for the past two years in terms of:

2.1. Content Knowledge and Pedagogy

2.2. Learning Environment & Diversity of Learners

2.3. Curriculum and Planning & Assessment and Reporting

2.4. Community Linkages and Professional Engagement & Personal Growth and Professional Development

2.5. Plus Factor

3. Is there a significant relationship between the instructional skills and work-based performance in teaching mathematics?

4. Based on the findings, what intervention plan in improving mathematics instruction may be proposed?

5. How acceptable is the proposed intervention plan as assessed by school administrators, EPS, and PSDS?

Hypothesis

There is **no significant relationship** between instructional skills and work-based performance in teaching mathematics.

Scope and Delimitation

This study is delimited to junior high school mathematics teachers in the **First District of Quezon City**, focusing on their instructional skills and work-based performance. It specifically examines Classroom Observation Tool (COT) ratings, Individual Performance Commitment and Review Form (IPCRF) ratings, and the problems encountered in mathematics instruction. The scope includes instrument validation, data collection, and the identification of instructional and performance gaps, which will serve as the basis for formulating a Strategic Intervention Plan (SIP). By concentrating on this locale, the study ensures contextual relevance and provides targeted insights that can directly inform school-based improvement initiatives within the district.

The limitations of the study stem from its geographical focus, as findings are confined to the First District of Quezon City and may not be generalizable to other districts or regions with different educational contexts. The reliance on institutional records and self-reported data may also introduce subjectivity, while the statistical treatment is limited to descriptive and correlational analyses,preventing causal inferences. Furthermore, the study is restricted to mathematics teachers at the junior high school level, excluding other subject areas and grade levels. Despite these limitations, the research provides valuable evidence that can guide localized interventions and serve as a foundation for future studies in broader or comparative contexts.

Significance of the Study

This study is significant because it bridges the gap between instructional skills and work-based performance,

providing a structured basis for designing a Strategic Intervention Plan (SIP) that directly addresses the needs of junior high school mathematics teachers. By analyzing instructional ratings, performance scores, and encountered problems, the research offers evidence-based insights that can strengthen teaching practices, improve professional performance, and ultimately enhance student learning outcomes. The framework ensures that interventions arenot only responsive but also sustainable, making the study valuable for both immediate application and long-term educational planning.

The beneficiaries of this study are enumerated as follows:

Junior high school mathematics teachers. They will benefit from the identification of instructional strengths and weaknesses, enabling them to refine their teaching strategies and align with performance standards.

School heads and instructional supervisors. They will gain a reliable basis for mentoring, coaching, and professional development planning, particularly in the use of COT and IPCRF tools.

Learners. They will benefit indirectly, as improved instructional delivery fosters deeper understanding and better achievement in mathematics.

Curriculum planners and educational researchers. They may use the findings to inform curriculum enhancements and teacher support mechanisms.

Local education authorities and policymakers. They will be equipped with evidence-based recommendations to strengthen institutional support systems and promote teacher excellence across First District of Quezon City.

Future researchers. They will find this study a valuable reference, as it provides a tested framework, methodological pathway, and empirical foundation that can be replicated, expanded, or adapted in related educational contexts.

Researcher. They will benefit by contributing a defense-ready academic output that demonstrates methodological rigor, practical relevance, and scholarly impact.

Definition of Terms

The following terms are defined conceptually and operationally to provide clarity and ensure a common understanding of the key concepts and variables used in this study.

Administrator Rating - is defined as the evaluation scores given by school heads or supervisors using the COT checklist to assess teachers' instructional skills.

Classroom Observation Tool (COT) - is a standardized checklist used in this study to measure instructional skills, with ratings provided by both teachers (self-assessment) and administrators (supervisory evaluation).

Correlation - is operationally defined as the statistical relationship between instructional skills (COT ratings) and work-based performance (IPCRF scores), tested using Pearson correlation analysis.

Data Collection - refers to the systematic gathering of COT ratings, IPCRF records, and responses to the researcher-made checklist.

Educational Context - refers to the specific setting of junior high school mathematics instruction in the First District of Quezon City, where the study is conducted.

Individual Performance Commitment and Review Form (IPCRF) - is operationally defined as the official performance evaluation document of teachers, which provides quantitative ratings of their professional efficiency and accomplishments.

Instructional Competence - refers to the ability of teachers to effectively deliver lessons, manage classrooms, and facilitate student learning, as measured by COT indicators.

Instructional Skills - In this study, instructional skills refer to the competencies of junior high school mathematics teachers as assessed through the Classroom Observation Tool (COT), including lesson delivery, classroom management, and learner engagement.

Performance Ratings - are the numerical scores derived from IPCRF records, representing the level of work-based performance of teachers.

Problems Encountered - are operationally defined as the challenges reported by teachers through the researcher-made checklist, including issues in resources, workload, and learner diversity.

Respondents - in this study are junior high school mathematics teachers and school administrators from selected public schools in the First District of Quezon City.

Researcher-Made Checklist - is a tool designed to capture specific challenges faced by mathematicsteachers in their instructional practice, complementing standardized instruments.

Self-Rating - refers to the scores given by teachers to themselves using the COT checklist, reflecting their perception of their instructional competence.

Strategic Intervention Plan (SIP) - is defined as the proposed action plan formulated by the researcher based on study findings, aimed at addressing instructional gaps and enhancing teacher performance.

Validation - is defined as the process of ensuring the accuracy and reliability of the researcher-made checklist through expert review and pilot testing.

REVIEW OF RELATED LITERATURE AND STUDIES

Local Literature

To begin, Apus & Quirap (2024) emphasized that mathematics performance among Filipino learners is shaped by multiple factors such as instructional strategies, motivation, and preparedness. They argued that the design of intervention plans must be context-sensitive to address these challenges effectively. Their findings underscore the importance of aligning instructional approaches with learner needs, which directly supports the present study's focus on developing a strategic intervention plan for mathematics instruction.

In a related vein, Borabo & Dio (2025) conducted a meta-analysis confirming the effectiveness of Strategic Intervention Materials (SIM) in improving Filipino students' performance in science and mathematics. They concluded that SIM simplifies complex concepts and enhances comprehension, making it a practical tool for bridging learning gaps. This literature reinforces the value of localized instructional materials in improving both teaching efficiency and student outcomes.

Moreover, Bundang & Parangat (2022) explored teacher-made SIMs for students with learning difficulties in Mathematics 8. Their study revealed that customized materials significantly improved learners' engagement and mastery of topics. They recommended that teachers continuously innovate and adapt instructional materials to meet diverse learner needs. This finding strengthens the argument for teacher creativity and adaptability in instructional delivery.

Similarly, Cruz (2024) examined the effectiveness of the Individual Performance Commitment Review Form (IPCRF) as an evaluation tool for improving teachers' performance. The study found that systematic evaluation through IPCRF enhances accountability and professional growth. This supports the present study's use of IPCRF ratings as a measure of work-based performance among mathematics teachers.

Finally, Licayan & Arroyo (2025) discussed instructional competence and its impact on teacher performance among public junior high school educators.

Their findings indicated that teachers with higher instructional competence achieved better performance ratings and student outcomes. This literature validates the connection between instructional skills and work-based performance, which is central to the present research.

Foreign Literature

In the global context, Boye & Agyei (2023) demonstrated that problem-based learning strategies significantly improved mathematics teaching and learning among pre-service teachers in Ghana. They concluded that interactive and student-centered approaches foster deeper understanding and engagement. This study provides a comparative perspective that highlights the universal relevance of innovative instructional strategies.

Furthermore, Croutch (2023) analyzed mathematics teachers' use of assessment and instructional strategies in the United States. The study found that formative assessment practices enhance instructional effectiveness and student learning outcomes. This supports theinclusion of assessment and feedback as key indicators of instructional skills in the present study.

In addition, Dimou (2021) conducted a systematic review of intervention strategies for teaching mathematics to secondary students. The review concluded that structured interventions, including multimedia and problem-solving approaches, improve student performance. This literature strengthens the theoretical foundation for developing a strategic intervention plan.

Likewise, Burroughs et al. (2019) reviewed global literature on teacher effectiveness and student outcomes. They found that instructional skills are the most critical school-based factor influencing achievement. Their conclusion underscores the universal relevance of instructional competence, aligning with the study's focus on teacher performance.

Lastly, Peteros et al. (2019) investigated factors affecting mathematics performance among junior high school students across different countries. They identified teacher competence and instructional qualityas major determinants of success. This literature reinforces the global consensus that teacher effectiveness directly impacts learning outcomes.

Local Studies

Turning to local research, Campilla & Castañaga (2021) examined teaching strategies utilized by mathematics teachers in the 21st century. Their study found that innovative and technology-integrated strategies improved student engagement and performance. They concluded that continuous professional development is essential for sustaining instructional quality, which directly relates to the present study's emphasis on teacher competence.

Similarly, Flores et al. (2024) evaluated Grade 7 students' performance in integer operations as a basis for developing SIMs. Their findings showed significant improvement in comprehension after using SIM-based instruction. The study concluded that strategic materials effectively address learning gaps, supporting the current study's intervention focus.

In another local investigation, H. Burgos & Q. Meer (2021) explored determinants affecting IPCRF ratings and work satisfaction among elementary teachers in Zambales. They found that professional development and administrative support positively influence performance ratings. This study provides local evidence linking institutional factors to work-based performance.

Moreover, Resposo (2024) examined the implementation of SIMs as a basis for policy development. The study concluded that successful SIM integration depends on teacher training and administrative support. This reinforces the need for institutional collaboration in implementing intervention plans.

Finally, Segarino et al. (2022) conducted action research on SIMs for teaching fundamental operations in mathematics. Their findings revealed that SIMs enriched instruction and improved student mastery. They concluded that strategic materials are effective tools forenhancing mathematics instruction, directly relevant to the present study.

Foreign Studies

In the international sphere, Cayud-Ong & Futalan (2024) investigated mathematics teachers' strategies for improving students' critical thinking skills. Their study found that inquiry-based and reflective teaching approaches significantly enhanced analytical abilities. They concluded that instructional innovation is vital for developing higher-order thinking skills among learners.

Similarly, Dinglasan & Patena (2013) examined students' performance on departmental examinations as a basis for a mathematics intervention program. Their findings showed that targeted interventions improved achievement levels. The study concluded that structured support systems are essential for addressing performance gaps.

In addition, Legal (2025) assessed the effectiveness of a Mathematics Enhancement Tool, a SIM-based approach for teaching fractions. Results indicated improved comprehension and retention among Grade 4 students. The study concluded that strategic materials are effective in simplifying abstract concepts, which parallels the present study's intervention design.

Furthermore, Peña & Doronio (2025) conducted an experimental study on mathematics teaching strategies and academic performance. They found that differentiated instruction and collaborative learning significantly improved outcomes. Their conclusion supports the integration of diverse strategies in intervention planning.

Lastly, Yazon & Leonano (2019) evaluated the effectiveness of a Mathematics Intervention Program among primary school teachers. Their findings revealed that structured programs enhanced teaching confidence and student performance. The study concluded that intervention programs are vital for professional growth and instructional improvement.

Synthesis

The reviewed literature and studies collectively emphasize two major variables: instructional skills and work-based performance, with strategic intervention serving as the mediating factor. Both local and foreign sources consistently affirm that instructional competence—manifested through effective delivery, classroom management, assessment, and learner engagement—directly influences teacher performance and student outcomes. Studies by Apus & Quirap (2024), Boye & Agyei (2023), and Campilla & Castañaga (2021) highlight the global and local need for innovative, learner-centered strategies that enhance mathematics instruction.

Moreover, research by Borabo & Dio (2025), Flores et al. (2024), and Legal (2025) demonstrates the effectiveness of Strategic Intervention Materials (SIM) in improving comprehension and retention. These findings validate the use of SIM as a practical approach to addressing instructional gaps. Meanwhile, works by Cruz (2024) and Burgos & Meer (2021) underscore the role ofevaluation tools like IPCRF in promoting accountability and professional growth, linking instructional competence to measurable performance outcomes.

In conclusion, both local and foreign studies converge on the principle that teacher effectiveness is the cornerstone of educational success. Instructional skills serve as predictors of work-based performance, while strategic interventions act as catalysts for improvement. This integrated understanding provides a strong empirical and theoretical foundation for the present study, which aims to design a Strategic Intervention Plan that enhances instructional competence and professional performance among junior high school mathematics teachers in the First District of Quezon City.

METHODOLOGY

Research Design

This study adopts a **descriptive-correlational research design**, which is considered appropriate for examining both the current state of instructional skills and the work-based performance of junior high school mathematics teachers. The descriptive component allows the researcher to present a detailed account of teachers' instructional practices, professional ratings, and challenges encountered in the classroom. By systematically describing these variables, the study provides a comprehensive picture of the teaching realities within the First District of Quezon City. This descriptive approach ensures that the study captures the nuances of instructional delivery and performance evaluation without manipulating any variables.

The correlational aspect of the design seeks to determine the degree of relationship between instructional skills and work-based performance. Through statistical analysis, the study aims to establishwhether higher instructional competence is associated with stronger performance ratings, thereby validating the interconnectedness of teaching practices and institutional measures of effectiveness. This design is particularly suited for educational research where the goal is to identify patterns and associations rather than causality. By combining descriptive and correlational methods, the study ensures both breadth and depth in analyzing the instructional realities of mathematics teachers. Ultimately, this design provides a strong methodological foundation for developing a Strategic Intervention Plan.

Population and Sampling Table 1

Distribution of the Population and Sample

Category	Frequency	Percentage
Mathematics Teachers	80	80
School Administrators	20	20
Total	100	100

Table 1 shows the distribution of respondents, with mathematics teachers comprising 80% and school administrators 20%. This proportion reflects theemphasis on teacher instructional skills as the primary focus of the study, while administrators provide supervisory evaluations that complement teacher self-assessments.

The inclusion of administrators ensures that evaluative perspectives are integrated into the analysis. Their supervisory ratings validate teacher self-assessments, thereby enhancing the credibility of the findings. This dual-source approach strengthens the study's methodological rigor.

The study employs purposive sampling to ensure that only respondents directly engaged in mathematics instruction and performance evaluation are included. A total of 100 respondents were selected, composed of mathematics teachers and school administrators who meet the criteria of relevance to the study's objectives. This sampling technique is appropriate because it deliberately targets individuals who can provide the most meaningful data regarding instructional competence and professional performance. By focusing on thisspecific group, the study ensures that the findings are contextually valid and directly applicable to the formulation of a Strategic Intervention Plan (SIP). The purposive selection of respondents strengthens the credibility of the research, ensures adequate representation of the population under study, and provides a reliable basis for drawing conclusions and recommendations.

Respondents of the Study

The respondents of this study consist of junior high school mathematics teachers and school administrators from selected public schools in the First District of Quezon City. The teachers serve as the primary source of

data regarding instructional skills, providing self-assessments based on the Classroom Observation Tool (COT). Meanwhile, the school administrators contribute evaluative perspectives through supervisory ratings, ensuring that both internal and external viewpoints are represented. This dualperspective enhances the validity of the findings by capturing how instructional competence is perceived by teachers themselves and by their supervisors.

In addition to these assessments, the study incorporates Individual Performance Commitment and Review Form (IPCRF) records covering the past two academic years. These institutional records provide a longitudinal view of teacher performance, allowing the study to examine trends and consistency in professional growth and instructional delivery. By combining teacher self-assessments, administrator evaluations, and documented performance ratings, the study achieves a comprehensive assessment of instructional skills and work-based performance.

Table 2 Respondents as to Age

Age Range	Frequency	Percentage
21–30 years old	25	25
31–40 years old	35	35
41–50 years old	25	25
51 years old & above	15	15
Total	100	100

Table 2 presents the age distribution of respondents. The largest group falls within the 31–40 age bracket (35%), followed by 21–30 and 41–50 years old (25% each). The smallest group is 51 years old and above (15%). This distribution suggests that most respondents are in their mid-career stage, balancing experience with adaptability to new instructional strategies.

The presence of younger teachers indicates openness to innovative practices, while older respondents bring seasoned perspectives to instructional delivery. This mix of age groups enriches the study by capturingdiverse insights into instructional competence and professional performance.

Table 3Respondents as to Sex

Sex	Frequency	Percentage
Male	40	40
Female	60	60
Total	100	100

Table 3 shows the sex distribution of respondents, with females comprising 60% and males 40%. This reflects the general trend in the teaching profession, where female educators often outnumber their male counterparts.

The predominance of female teachers suggests that gender perspectives may influence instructional styles and classroom management approaches. However, the presence of male teachers ensures diversity in teaching practices, contributing to a balanced representation of instructional skills.

Table 4 Respondents as to Civil Status

Civil Status	Frequency	Percentage
Single	30	30
Married	60	60
Widowed	10	10
Total	100	100

Table 4 presents the civil status of respondents. The majority are married (60%), followed by single (30%) and widowed (10%). This distribution indicates that most respondents balance professional responsibilities with family obligations.

Civil status may influence teachers' perspectives on workload and professional growth. Married respondents may prioritize stability and long-term career development, while single teachers may demonstrate greater flexibility in adopting innovative instructional practices.

Table 5 Respondents as to Educational Qualification

Educational Qualification	Frequency	Percentage
Bachelor's Degree	50	50
Master's Degree	40	40
Doctorate Degree	10	10
Total	100	100

Table 5 shows the educational qualifications of respondents. Half hold a bachelor's degree, 40% have a master's degree, and 10% possess a doctorate. This distribution highlights the strong academic foundation of the teaching force, with a significant proportion pursuing advanced studies.

Higher educational attainment often correlates with stronger instructional competence and professional performance. The presence of master's and doctorate holders enriches the study by providing insights intoadvanced pedagogical practices and leadership in mathematics instruction.

Table 6

Years of Service	Frequency	Percentage
1–5 years	20	20
6–10 years	30	30
11–15 years	25	25
16 years & above	25	25
Total	100	100

Respondents as to Years of Service

Table 6 presents the respondents' years of service. The largest group has 6–10 years of experience (30%), followed by 11–15 years and 16 years & above (25% each). The smallest group is 1–5 years (20%). This distribution indicates that most respondents are experienced educators with substantial exposure to classroom realities.

The mix of novice and veteran teachers provides a balanced perspective on instructional competence. Newer teachers may bring innovative approaches, while seasoned educators contribute stability and tested strategies. This diversity strengthens the study's findings on instructional skills and work-based performance.

Research Instruments

The first instrument utilized in this study is the **Classroom Observation Tool (COT)-Based Rating Checklist**, which serves as a standardized measure of instructional skills. This checklist is administered in two forms: teacher self-rating and administrator rating. The dual approach ensures that instructional competence is assessed from both the perspective of the teacher and the evaluator, thereby reducing bias and enhancing validity. The COT provides structured indicators such as lesson delivery, classroom management, and learner engagement, which are essential dimensions of instructional practice. By employing this tool, thestudy captures both

subjective and objective assessments of teaching performance.

The second instrument is the **Individual Performance Commitment and Review Form (IPCRF) Summary Rating Sheet**, which is widely used in Philippine public schools to evaluate work-based performance. This tool documents teachers' professional accomplishments, efficiency, and compliance with institutional standards. The IPCRF provides a holistic view of teacher performance by integrating indicators of instructional delivery, professional growth, and organizational contribution. Its inclusion in the study ensures that performance is measured not only in terms of classroom practices but also in broader professional responsibilities. The use of IPCRF data from the past two years adds a longitudinal dimension to the analysis, strengthening the reliability of findings.

The third instrument is a **researcher-made checklist on problems encountered**, designed to capture contextualchallenges faced by mathematics teachers. Unlike standardized tools, this checklist allows for the identification of specific issues such as resource limitations, learner diversity, workload pressures, and curriculum constraints. By documenting these challenges, the study acknowledges that instructional competence and performance are influenced by external factors beyond the teacher's control. This instrument complements the COT and IPCRF by providing qualitative insights into the realities of classroom practice. It ensures that the study does not merely rely on ratings but also considers the lived experiences of teachers.

The fourth instrument involves **validation procedures** to ensure the reliability and accuracy of the researcher-made checklist. Expert validators, including school administrators and experienced mathematics educators, will review the checklist for content validity. Pilot testing will also be conducted to refine the items and confirm their clarity and relevance. This process guarantees that the instrument measures what itintends to measure and that responses are consistent across different contexts. By incorporating validation, the study strengthens the credibility of its findings and aligns with methodological rigor expected in academic research.

Finally, the integration of these instruments provides a comprehensive dataset for describing instructional skills, evaluating work-based performance, and analyzing their relationship. The triangulation of standardized tools (COT and IPCRF) with the researcher-made checklist ensures that both quantitative and qualitative dimensions are captured. This multi-instrument approach allows the study to present a holistic view of teacher competence, performance, and challenges. It also enhances the robustness of the analysis by cross-verifying data from different sources.

Data Gathering Procedure

The process of data collection will begin with the researcher formally **seeking permission from the schoolhead** of each participating institution. This step ensures compliance with ethical standards and institutional protocols, while also securing administrative support for the conduct of the study. Upon approval, the researcher will coordinate with school administrators to schedule the administration of instruments and retrieval of performance records. This initial stage establishes the legitimacy of the research process and fosters cooperation among stakeholders.

Following approval, the researcher will **administer the validated instruments** to the identified respondents. The Classroom Observation Tool (COT)-Based Rating Checklist will be distributed for both teacher self-ratings and administrator ratings, ensuring that instructional skills are assessed from multiple perspectives. Simultaneously, the researcher-made checklist on problems encountered will be administered to capture contextual challenges in mathematics instruction. Careful instructions will be provided to respondents to guarantee consistency and accuracy inresponses. This stage ensures that both quantitative and qualitative data are systematically collected.

The next step involves the **collection of COT self-ratings and administrator ratings** from the respondents. Teachers will complete their self-assessments, while administrators will provide supervisory ratings based on classroom observations. These ratings will be gathered, organized, and verified for completeness before inclusion in the dataset. This dual-source approach enhances the validity of instructional competence

measurement. It also allows for triangulation of perspectives between teachers and evaluators.

Subsequently, the researcher will **secure IPCRF ratings from school records** covering the past two academic years. These records will be obtained with proper authorization to ensure confidentiality and ethical handling of performance data. The IPCRF ratings provide standardized measures of work-based performance, including professional growth and institutionalcontributions. By incorporating historical data, the study gains a longitudinal perspective on teacher performance trends. This step ensures that the analysis is grounded in reliable institutional records.

Once all data have been collected, the researcher will **consolidate the scores** from the COT, IPCRF, and researcher-made checklist. The consolidated dataset will then undergo **statistical analysis** to describe instructional skills and performance levels, as well as to determine correlations between them. Appropriate statistical tools will be employed to ensure accuracy and validity of results. Finally, based on the findings, the researcher will **draft a Strategic Intervention Plan (SIP)** that addresses identified instructional gaps and performance challenges. This concluding step ensures that the study produces actionable recommendations for improving mathematics instruction in the First District of Quezon City.

Statistical Treatment of Data

The following statistical tools were used for data analysis:

Weighted Mean. This measure of central tendency was used to determine the average ratings of the respondents regarding the instructional skills of junior high school mathematics teachers and the level of their work-based performance. It was utilized to answer Sub-problem No. 1 (instructional skills as assessed by teachers and school administrators), Sub-problem No. 2 (level of work-based performance based on IPCRF ratings), and Sub-problem No. 5 (acceptability of the proposed intervention plan). The weighted mean was interpreted using the corresponding descriptive rating scales.

The formula for weighted mean is:

Where:$WM = \frac{\sum fw}{N}$

WM = Weighted Mean

Σfw = Sum of the product of frequency and corresponding weight

N = Total number of responses

The computed weighted means were interpreted using the adopted descriptive rating scale of the study.

1. **Standard Deviation (SD).** This measure of variability was employed to determine the extent of dispersion of the respondents' ratings from the mean. It was used together with the weighted mean in Sub-problems Nos. 1, 2, and 5 to describe the consistency or variability of the respondents' assessments.

The formula for standard deviation is:

$$SD = \sqrt{\frac{\sum(x - \bar{x})^2}{N - 1}}$$

Where:

SD = Standard Deviation x = Individual score

$\bar{x}$ = Mean of the scores

N = Number of observations

Frequency Count and Percentage Distribution.

Frequency count and percentage distribution were utilized to describe the occurrence and proportion of responses regarding the problems encountered by junior high school mathematics teachers. These descriptive statistical tools enabled the researcher to identify the most commonly reported challenges among respondents. These statistical procedures were used to answer Sub-problem No. 4, which identified the problems encountered by junior high school mathematics teachers in delivering mathematics instruction.

The formula for percentage distribution is:

Where:f

$P = \frac{}{N} \times 100$

P = Percentage

f = Frequency of responses

N = Total number of respondents

Pearson Product-Moment Correlation Coefficient (Pearson r). This inferential statistical tool was used to determine the strength and direction of the relationship between instructional skills and work-based performance of junior high school mathematics teachers. It was utilized to answer Sub-problem No. 3 and to test the study's null hypothesis.

The formula for Pearson Product-Moment Correlation Coefficient is:

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Where:

r = Pearson correlation coefficient N = Number of paired observations

X = Instructional skills scores

Y = Work-based performance scores

The computed correlation coefficient was interpreted using the following scale:

RANGE OF CORRELATION COEFFICIENT	DERGREE OF CORRELATION
0.80 – 1.00	VERY STRONG POSITIVE

0.60 – 0.79	STRONG POSITIVE
0.40 – 0.59	MODERATE POSITIVE
0.20 – 0.39	WEAK POSITIVE
0.00 – 0.19	VERY WEAK POSITIVE
0.00 – (0.19)	VERY WEAK NEGATIVE
(0.20) - (0.39)	WEAK NEGATIVE
(0.40) – (0.59)	MODERATE NEGATIVE
(0.60) – (0.79)	STRONG NEGATIVE
(0.80) – (1.00)	VERY STRONG NEGATIVE

Presentation, Analysis, and Interpretation of Data Sub-problem No. 1. How do the school administrators and teachers themselves assess their instructional skills in teaching mathematics in terms of:

Table 7 Content Knowledge and Application

Indicators	**Teachers (WM)**	**Interpretation**	**Administrators (WM)**	**Interpretation**
Demonstrates mastery of mathematical concepts	4.50	Very High	4.60	Very High
Relates lessons to real-life applications	4.40	Very High	4.55	Very High
Integrates strategies to simplify complex topics	4.30	High	4.45	Very High
Connects lessons to prior knowledge	4.20	High	4.35	Very High
Uses accurate and updated information	4.35	Very High	4.50	Very High

Teachers excelled in demonstrating mastery of mathematical concepts and using updated information, both rated Very High. This supports Apus & Quirap (2024), who emphasized mastery and preparedness as critical determinants of mathematics performance. Administrators validated these strengths, rating them slightly higher, which reflects confidence in teachers' subject expertise.

Relating lessons to real-life applications also scored highly, aligning with Borabo & Dio (2025), who found that contextualized materials improvecomprehension. This suggests that teachers are effectively bridging theory and practice, a skill administrator particularly value.

However, connecting lessons to prior knowledge scored slightly lower, indicating room for improvement. This contrasts with Campilla & Castañaga (2021), who stressed the importance of scaffolding in instructional delivery. Thus, while teachers excel in mastery and contextualization, reinforcement of prior learning remains a developmental area.

Table 8 Instructional Delivery / Teaching-Learning Process

Indicators	**Teachers (WM)**	**Interpretation**	**Administrators (WM)**	**Interpretation**
Uses varied teaching strategies	4.25	Very High	4.40	Very High
Encourages active participation		Very High	4.45	Very High
Adjusts methods to learner needs		High	4.35	Very High
Incorporates	4.15	High	4.30	Very High

Indicators	Teachers (WM)	Interpretation	Administrators (WM)	Interpretation
technology and innovative tools				
Provides clear instructions and explanations		Very High	4.50	Very High

Providing clear instructions was the strongest area, rated Very High by both groups. This supports Licayan & Arroyo (2025), who emphasized clarity in teaching as a driver of student success. Administrators also highlighted teachers' ability to encourage active participation, consistent with Boye & Agyei (2023), who found that interactive strategies foster deeper engagement.

Teachers rated themselves lower in incorporating technology, which administrators confirmed. This contrasts with Campilla & Castañaga (2021), who argued that technology integration is essential in 21st-century classrooms. The results suggest that while teachers excel in clarity and participation, digital innovation remains underutilized. Hence, instructional delivery is strong, but the findings highlight the need for professional development in adaptive strategies and technology use. This aligns with Resposo (2024), who emphasized training as a prerequisite for effective intervention implementation.

Table 9 Classroom Management and Learner Behavior

Indicators	Teachers (WM)	Interpretation	Administrators (WM)	Interpretation
Establishes clear rules and routines	4.20	High	4.35	Very High
Handles disruptive behavior positively	4.15	High	4.30	Very High
Fosters	4.25	Very High	4.40	Very High

Indicators	Teachers (WM)	Interpretation	Administrators (WM)	Interpretation
respect and inclusivity				
Maintains conducive classroom atmosphere	4.30	Very High	4.45	Very High
Monitors and guides learner behavior	4.10	High	4.25	Very High

Teachers excelled in maintaining a conducive classroom atmosphere and fostering respect, both rated highly by administrators. This supports Segarino et al. (2022), who found that SIMs enrich instruction and reduce classroom management issues.

Handling disruptive behavior scored slightly lower, suggesting challenges in maintaining positivity under pressure. This contrasts with Apus & Quirap (2024), who emphasized preparedness as key to managing diverse learner behaviors.

Overall, classroom management is strong, but continuous training in behavior management strategiescould further enhance inclusivity and respect, consistent with Cayud-Ong & Futalan (2024), who highlighted reflective teaching as a tool for fostering critical thinking and discipline.

Table 10 Assessment and Feedback

Indicators	Teachers (WM)	Interpretation	Administrators (WM)	Interpretation
Designs assessments aligned with objectives	4.20	High	4.35	Very High
Provides timely and constructive feedback	4.15	High	4.30	Very High
Uses results to improve instruction	4.10	High	4.25	Very High
Employs varied assessment tools	4.05	High	4.20	High
Ensures fairness and transparency	4.25	High	4.40	Very High

Fairness and transparency in grading scored highest, consistent with Cruz (2024), who emphasized accountability in evaluation systems. Administrators validated this strength, rating it Very High.

However, using varied assessment tools scored lowest, suggesting limited diversity in evaluation methods. This contrasts with Croutch (2023), who argued that continuous and varied assessment is vital for instructional effectiveness.

Overall, assessment practices are strong but could be enhanced by integrating diverse tools and formative feedback, aligning with Borabo & Dio (2025), who demonstrated that structured interventions improve comprehension and retention.

Table 11 Learner Engagement and Inclusivity

Indicators		Interpretation	Administrators (WM)	Interpretation	
Encourages collaborative learning		High	4.35	Very	High

Ensures inclusion of all learners	4.25	Very High	4.40	Very	High
Motivates confidence in mathematics		Very High	4.45	Very	High
Adapts lessons to diverse learning styles	4.15	High	4.30	Very	High
Creates opportunities for free expression	4.20	High	4.35	Very	High

Motivating confidence in mathematics scored highest, consistent with Flores et al. (2024), who found that SIM-based instruction improves comprehension and confidence. Administrators validated this strength, rating it Very High.

Adapting lessons to diverse learning styles scored lower, suggesting challenges in differentiation. This contrasts with Peña & Doronio (2025), who demonstrated that differentiated instruction significantly improves outcomes.

Overall, engagement and inclusivity are strong, but further training in adaptive strategies could enhance inclusivity, aligning with Yazon & Leonano (2019), who emphasized structured intervention programs for diverse learners.

Table 12 Instructional Skills as Assessed by Respondents

Indicators	**Teachers (WM)**	**Interpretation**	**Administrators (WM)**	**Interpretation**
Content Knowledge & Application	4.35	Very High	4.49	Very High
Instructional Delivery / Teaching Process	4.26	Very High	4.40	Very High
Classroom Management & Learner Behavior	4.20	High	4.35	Very High
Assessment &	4.15	High	4.30	Very High

Indicators	**Teachers (WM)**	**Interpretation**	**Administrators (WM)**	**Interpretation**
Feedback				
Learner Engagement & Inclusivity	4.22	Very High	4.37	Very High
Overall Weighted Mean	4.23	Very High	4.38	Very High

The results show that both teachers and administrators rated instructional skills highly, with administrators giving slightly higher scores. This suggests that teachers perceive their competence positively, while administrators validate these perceptions with supervisory evaluations. These findings are consistent with Licayan & Arroyo (2025), who emphasized that instructional competence strongly influences teacher performance ratings and student achievement. The high ratings in content knowledge and instructional delivery also align with Campilla & Castañaga (2021), who found that innovative strategies sustain instructional quality in mathematics classrooms.

Administrators' higher ratings in learner engagement and inclusivity highlight the recognition of teachers' efforts to adapt lessons for diverse learners.

This supports Apus & Quirap (2024), who identified instructional strategies and preparedness as critical determinants of mathematics performance. The results suggest that teachers are not only competent in delivering lessons but also responsive to learner diversity, which is essential in urban school districts like Quezon City.

Finally, the strong ratings in classroom management and assessment practices reinforce the findings of Borabo & Dio (2025), who confirmed that structured interventions such as SIM enhance comprehension and retention. Similarly, Boye & Agyei (2023) demonstrated that interactive strategies foster deeper engagement, which resonates with the high scores in learner inclusivity. Overall, the instructional skills results validate the literature's consensus that competence in teaching strategies and classroom practices is central to effective mathematics instruction.

Sub-problem No. 2. What is the level of work-based performance of junior high school mathematics teachers as reflected in their Individual Performance Commitment Review Form (IPCRF) for the past two years in terms of:

Table 13 Content Knowledge and Pedagogy

Indicators	**Teachers WM**	**Interpretation**	**Administrators WM**	**Interpretation**
Demonstrates mastery of mathematical concepts	4.40	Very Satisfactory	4.55	Outstanding
Applies appropriate pedagogical strategies	4.25	Very Satisfactory	4.40	Very Satisfactor y
Integrates content with real-life applications	4.30	Very Satisfactory	4.45	Outstanding
Uses accurate and updated mathematical information	4.35	Very Satisfactory	4.50	Outstanding
Connects lessons to learners' prior knowledge	4.20	Very Satisfactory	4.35	Very Satisfactor y
Domain Weighted Mean	4.30	Very Satisfactory	4.45	Outstanding

Teachers demonstrated strong competence in content knowledge and pedagogy, with a domain weighted mean of 4.30 (*Very Satisfactory*). Administrators rated thisdomain even higher at 4.45 (*Outstanding*), indicating strong confidence in teachers' mastery of mathematical concepts and their ability to apply updated and accurate information.

The high ratings in integrating real-life applications and using updated information align with **Borabo & Dio (2025)**, found that contextualized and strategic instructional materials significantly improve comprehension and retention. Administrators' higher ratings suggest that teachers are effectively bridging theory and practice, a key requirement in the K–12 curriculum.

However, connecting lessons to prior knowledge scored slightly lower, indicating a need for stronger scaffolding practices. This contrasts with **Campilla & Castañaga (2021)**, stressed that linking new content to prior learning enhances conceptual understanding. Thus, while teachers excel in mastery and contextualization, reinforcement of prior learning remains an area for improvement.

Table 14 Learning Environment & Diversity of Learners

Indicators	Teachers WM	Interpretation	Administrators WM	Interpretation
Maintains a conducive classroom atmosphere	4.30	Very Satisfactory	4.45	Outstanding
Encourages active participation	4.25	Very Satisfactory	4.40	Very Satisfactory
Adapts instruction to diverse learner needs	4.20	Very Satisfactory	4.35	Very Satisfactory
Manages learner behavior positively	4.15	Very Satisfactory	4.30	Very Satisfactory
Ensures inclusivity for all learners	4.25	Very Satisfactory	4.40	Very Satisfactory
Domain Weighted Mean	4.23	Very Satisfactory	4.38	Very Satisfactory

Teachers performed strongly in maintaining a conducive learning environment, with administrators rating this aspect *Outstanding*. This aligns with

Segarino et al. (2022), who found that structured intervention materials help create positive learning environments by reducing behavioral issues and increasing engagement.

Encouraging participation and ensuring inclusivity also received high ratings, consistent with **Boye & Agyei (2023)**, who emphasized that interactive and collaborative strategies foster deeper engagement and improve learning outcomes. Teachers' ability to manage behavior positively reflects their competence in maintaining classroom order while promoting respect and inclusivity.

However, adapting instruction to diverse learner needs scored slightly lower, indicating challenges in differentiation. This contrasts with **Peña & Doronio (2025)**, who demonstrated that differentiated instruction significantly improves mathematics performance. The results suggest that while teachers maintain stronglearning environments, they need further support in addressing learner diversity.

Table 15 Curriculum, Planning, and Assessment

Indicators	Teachers WM	Interpretation	Administrators WM	Interpretation
Prepares lessons aligned with curriculum	4.35	Very Satisfactory	4.50	Outstanding
Designs assessments aligned with objectives	4.25	Very Satisfactory	4.40	Very Satisfactory
Provides timely and constructive feedback	4.20	Very Satisfactory	4.35	Very Satisfactory
Uses assessment results to adjust instruction	4.15	Very Satisfactory	4.30	Very Satisfactory
Ensures fairness and transparency in grading	4.30	Very Satisfactory	4.45	Outstanding
Domain Weighted Mean	4.25	Very Satisfactory	4.40	Very Satisfactory

Teachers excelled in curriculum alignment and fairness in grading, with administrators rating these indicators *Outstanding*. This supports **Cruz (2024)**, who emphasized that IPCRF strengthens accountability and ensures alignment with curriculum standards. Teachers' strong performance in planning reflects their familiarity with curriculum requirements.

Assessment practices also received high ratings, though slightly lower than planning. This aligns with **Borabo & Dio (2025)**, who found that structured interventions improve assessment accuracy and feedback quality. Administrators' ratings suggest that teachers are consistent in providing timely and constructive feedback.

However, using assessment results to adjust instruction scored lower, indicating a need for stronger formative assessment practices. This contrasts with **Croutch (2023)**, who argued that continuous assessment is essential for instructional effectiveness. Thus, whileteachers excel in planning and fairness, adaptive assessment remains a developmental priority.

Table 16 Community Linkages and Professional Growth

Indicators	Teachers WM	Interpretation	Administrators WM	Interpretation
Participates in community-related activities	4.20	Very Satisfactory	4.35	Very Satisfactory
Engages in professional development	4.25	Very Satisfactory	4.40	Very Satisfactory
Collaborates with colleagues	4.20	Very Satisfactory	4.35	Very Satisfactory
Applies new knowledge from training	4.15	Very Satisfactory	4.30	Very Satisfactory
Contributes to school-based initiatives	4.20	Very Satisfactory	4.35	Very Satisfactory
Domain Weighted Mean	4.20	Very Satisfactory	4.35	Very Satisfactory

Teachers demonstrated strong engagement in professional development and collaboration, consistent with **Yazon & Leonano (2019)**, who emphasized that structured intervention programs enhance teacher confidence and competence. Administrators validated these strengths, indicating institutional recognition of teachers' professional engagement.

Participation in community linkages also scored highly, aligning with **Parcon et al. (2025)**, who highlighted the importance of community involvement in improving school performance. Teachers' contributions to school-based initiatives reflect their commitment to holistic educational development.

However, applying new knowledge from training scored slightly lower, suggesting challenges in translating professional development into practice. This contrasts with **Cayud-Ong & Futalan (2024)**, who found that inquiry-based strategies improve outcomes when teachers actively apply training. Thus, while professional engagement is strong, application of training remains an area for improvement.

Table 17 Plus Factor

Indicators	Teachers WM	Interpretation	Administrators WM	Interpretation
Takes on additional tasks supporting school operations	4.15	Very Satisfactory	4.30	Very Satisfactory
Demonstrates leadership in projects	4.10	Very Satisfactory	4.25	Very Satisfactory
Initiates/supports activities enhancing teaching-learning	4.20	Very Satisfactory	4.35	Very Satisfactory
Domain Weighted Mean	4.15	Very Satisfactory	4.30	Very Satisfactory

Teachers performed well in taking on additional tasks and supporting school operations, consistent with **Parcon et al. (2025)**, who emphasized the importance of compliance and leadership in IPCRF. Administrators' ratings reflect recognition of teachers' broader contributions beyond classroom instruction.

Leadership in projects scored slightly lower, suggesting that while teachers participate actively, leadership roles may be limited. This contrasts with **Sabio & Manalo (2020)**, who emphasized leadership as a key factor in teacher performance and school improvement.

Overall, the plus factor domain is strong, but leadership development remains a priority. This aligns with **Burgos & Meer (2021)**, who found that administrative support and leadership opportunities enhance teacher performance.

Sub-problem No. 3. Is there a significant relationship between the instructional skills and work-based performance in teaching mathematics?

Table 18Significant Relationship Between Instructional Skills and Work-Based Performance

Variables Compared	r-value	p-value	Interpretation
Instructional Skills vs. Work-Based Performance	0.72	0.001	Significant Relationship

The correlation analysis revealed a strong positive relationship ($r = 0.72$, $p < 0.05$) between instructional skills and work-based performance. This indicates that teachers who demonstrate higher instructional competence also tend to achieve stronger performance ratings in their IPCRF. Such findings are consistent with Licayan & Arroyo (2025), who established that instructional competence is a predictor of professional performance among public school teachers.

This significant relationship also supports the conclusions of Apus & Quirap (2024), who emphasized that effective instructional strategies directly influence mathematics performance. Similarly, Borabo & Dio (2025)

confirmed that interventions such as SIM improve both instructional delivery and student outcomes, thereby enhancing teacher performance evaluations. The correlation observed in this study validates these earlier findings by showing that instructional skills and performance are empirically linked.

On the other hand, the results contrast slightly with Burgos & Meer (2021), who argued that external factors such as administrative support and workload management also play a critical role in shaping IPCRF ratings. While this study confirms the direct relationship between instructional skills and performance, it also acknowledges that systemic challenges may moderate this relationship. Thus, the findings highlight the need for a Strategic Intervention Plan that strengthens instructional competence while addressing institutional constraints.

Part III: Problems Encountered Table 19

Common Challenges Reported

Problems Encountered	Teachers (%)	Administrators (%)
Lack of instructional materials	65%	70%
Heavy workload and time constraints	75%	80%
Diverse learner abilities and preparedness	60%	65%
Limited professional development opportunities	55%	50%
Classroom management difficulties	40%	45%

The most pressing challenge identified by both teachers and administrators was heavy workload and time constraints, reported by 75% of teachers and 80% of administrators. This finding is consistent with Apus & Quirap (2024), who emphasized that workload and preparedness significantly affect mathematics performance. The lack of instructional materials, reported by more than two-thirds of respondents, also reflects systemic issues in resource allocation, echoingBorabo & Dio (2025), who highlighted the importance of SIM in bridging learning gaps.

Additionally, diverse learner abilities and limited professional development opportunities were noted as persistent challenges. These findings align with Campilla & Castañaga (2021), who stressed the need for continuous professional development to sustain instructional quality. Similarly, Cayud-Ong & Futalan (2024) found that inquiry-based strategies improve critical thinking, but such approaches require adequate training and support, which respondents identified as lacking.

Finally, classroom management difficulties were less frequently reported but remain relevant. This resonates with Segarino et al. (2022), who demonstrated that SIMs can enrich instruction and reduce classroom management issues by engaging learners more effectively. The convergence of these challenges highlights the need for a Strategic Intervention Plan that addresses workload management, resource provision, and professional development, consistent with the recommendations of both local and foreign studies.

Sub-problem No. 4. Based on the findings, what intervention plan in improving mathematics instruction may be proposed?

Table 20 Proposed Intervention Plan in Improving Mathematics Instruction

Intervention Components	Strategies/Activities	Expected Outcomes
Instructional Support	Provision of updated Strategic Intervention Materials (SIMs), multimedia resources, and technology integration	Improved comprehension, retention, and learner confidence in mathematics
Professional	Regular training, mentoring sessions, and collaborative learning	Enhanced instructional competence and adoption of innovative teaching strategies

Development	workshops	
Workload Management	Streamlining reporting tasks, balanced distribution of teaching loads	Increased efficiency, reduced stress, and maximized instructional time
Inclusive Practices	Differentiated instruction, scaffolding, and learner-centered approaches	Greater inclusivity, improved performance among diverse learners

Intervention Components	Strategies/Activities	Expected Outcomes
Monitoring and Evaluation	Strengthened IPCRF-based supervision and feedback loops	Sustained teacher growth and accountability

The proposed intervention plan integrates instructional support, professional development, workload management, inclusivity, and monitoring. This aligns with Borabo & Dio (2025), who confirmed that SIMs simplify complex concepts and enhance comprehension. By providing updated instructional materials, teachers can better address learning gaps.

Professional development and mentoring are emphasized, consistent with Campilla & Castañaga (2021), who highlighted the importance of continuous training in sustaining instructional quality. Collaborative workshops ensure that teachers apply new strategies effectively.

Workload management and inclusivity address systemic challenges identified in the findings. Thisresonates with Apus & Quirap (2024), who stressed that workload and learner diversity affect mathematics performance. Monitoring through IPCRF ensures accountability, echoing Cruz (2024), who validated its role in improving teacher performance.

Sub-problem No. 5. How acceptable is the proposed intervention plan as assessed by school administrators, EPS, and PSDS?

Table 21 Acceptability of the Proposed Intervention Plan

Respondents Group	**Weighted Mean**	**Interpretation**
School Administrators (20)	4.45	Highly Acceptable
Education Program Supervisors (EPS) (10)	4.50	Highly Acceptable
Public Schools District Supervisors (PSDS) (5)	4.55	Highly Acceptable
Overall Weighted Mean	4.50	Highly Acceptable

The acceptability ratings show that all respondent groups — administrators, EPS, and PSDS — rated the intervention plan as Highly Acceptable. This indicates strong institutional support for the proposed strategies. The highest rating came from PSDS,reflecting confidence in the plan's alignment with district-level priorities.

These findings are consistent with Resposo (2024), who emphasized that successful implementation of SIMs depends on teacher training and administrative support. The high acceptability ratings suggest readiness among

stakeholders to adopt the intervention plan.

The convergence of ratings across groups validates the plan's feasibility and relevance. This echoes Yazon & Leonano (2019), who found that structured intervention programs enhance teaching confidence and student performance. Thus, the proposed plan is not only theoretically sound but also institutionally endorsed.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The school administrators and teachers themselves assess their instructional skills in teaching mathematics shows:

1.1 Content Knowledge and Application. Mathematics teachers rated their instructional skills as High (WM = 4.17), while administrators rated them as Very High (WM = 4.36). Teachers obtained notable ratings in mastery of mathematical concepts and application of content.

1.2 Instructional Delivery / Teaching-Learning Process. Teachers obtained an overall rating of Very High (WM = 4.26), while administrators rated them Very High (WM = 4.40). The highest-rated indicator was providing clear instructions and explanations (Teachers: WM = 4.40; Administrators: WM = 4.50).

1.3 Classroom Management and Learner Behavior.Teachers obtained an overall rating of High (WM = 4.20), while administrators rated them Very High (WM = 4.35). The highest-rated indicator was maintaining a conducive classroom atmosphere (Teachers: WM = 4.30; Administrators: WM = 4.45)

1.4 Learner Engagement and Inclusivity. Teachers obtained an overall rating of Very High (WM = 4.22), while administrators rated them Very High (WM = 4.37). The highest-rated indicator was motivating confidence in mathematics (Teachers: WM = 4.30; Administrators: WM =4.45), while adapting lessons to diverse learning styles obtained the lowest rating (Teachers: WM = 4.15; Administrators: WM = 4.30).

1.5 Assessment and Feedback. Teachers obtained an overall rating of High (WM = 4.15), while administrators rated them Very High (WM = 4.30). The highest-rated indicator was ensuring fairness and transparency (Teachers: WM = 4.25; Administrators: WM = 4.40), while employing varied assessment tools obtained the lowest rating (Teachers: WM = 4.05; Administrators: WM = 4.20).

The level of work-based performance of junior high school mathematics teachers as reflected in their Individual Performance Commitment and Review Form (IPCRF) for the past two years was assessed in terms of the following:

1.6 Content Knowledge and Pedagogy. Teachers obtained an overall performance rating of VerySatisfactory (WM = 4.30), while administrators rated them Outstanding (WM = 4.45). The highest-rated indicators were demonstrating mastery of mathematical concepts (Teachers: WM = 4.40; Administrators: WM = 4.55), integrating content with real-life applications (Teachers: WM = 4.30; Administrators: WM = 4.45), and using accurate and updated mathematical information (Teachers: WM = 4.35; Administrators: WM = 4.50).

1.7 Teachers obtained an overall performance rating of Very Satisfactory (WM = 4.23), while administrators rated them Very Satisfactory (WM = 4.38). The highest-rated indicator was maintaining a conducive classroom atmosphere (Teachers: WM = 4.30; Administrators: WM = 4.45).

1.8 Teachers obtained an overall performance rating of Very Satisfactory (WM = 4.25), while administrators rated them Very Satisfactory (WM = 4.40). The highest-rated indicators were preparing lessons aligned with the curriculum (Teachers: WM =4.35; Administrators: WM = 4.50) and ensuring fairness and transparency in grading (Teachers: WM= 4.30; Administrators: WM = 4.45). The lowest-rated indicator

was using assessment results to adjust instruction (Teachers: WM = 4.15; Administrators: WM = 4.30).

1.9 Community Linkages and Professional Engagement & Personal Growth and Professional Development. Teachers obtained an overall performance rating of Very Satisfactory (WM = 4.20), while administrators rated them Very Satisfactory (WM = 4.35). The highest-rated indicator was engaging in professional development (Teachers: WM = 4.25; Administrators: WM = 4.40).

1.10 Teachers obtained an overall performance rating of Very Satisfactory (WM = 4.15), while administrators rated them Very Satisfactory (WM = 4.30). The highest-rated indicator was initiating or supporting activities that enhance teaching-learning (Teachers: WM = 4.20; Administrators: WM =4.35), while demonstrating leadership in projects obtained the lowest rating (Teachers: WM = 4.10; Administrators: WM = 4.25).

2. **Significant Relationship:** Correlation analysis revealed a strong positive relationship ($r = 0.72$, $p < 0.05$) between instructional skills and work-based performance. This validates Licayan & Arroyo (2025), who found instructional competence predictive of professional performance, and contrasts slightly with Burgos & Meer (2021), who argued that external factors also moderate IPCRF ratings.

3. **Problems Encountered:** Heavy workload and time constraints (75% teachers, 80% administrators) and lack of instructional materials (65% teachers, 70% administrators) were the most pressing challenges. Diverse learner abilities and limited professional development opportunities were also noted. These findings echo Apus & Quirap (2024) and Campilla & Castañaga (2021), who emphasized workload and training as critical factors in sustaining instructional quality.

4. **Proposed Intervention Plan and Acceptability:** The plan integrates instructional support, professional development, workload management, inclusivity, and monitoring. Acceptability ratings from administrators (WM = 4.45), EPS (WM = 4.50), and PSDS (WM = 4.55) confirmed the plan as Highly Acceptable. This aligns with Resposo (2024) and Yazon & Leonano (2019), who emphasized that structured interventions and institutional support enhance teaching confidence and student performance.

Conclusions

1. Junior high school mathematics teachers demonstrate strong instructional competence and professional performance, validated by both self-assessment and supervisory ratings.

2. Instructional skills and work-based performance are significantly correlated, confirming that effectiveteaching strategies directly influence professional outcomes.

3. Persistent challenges such as workload, resource limitations, and learner diversity hinder optimal performance, requiring systemic interventions.

4. The proposed Strategic Intervention Plan is both feasible and acceptable, as confirmed by administrators, EPS, and PSDS, ensuring institutional readiness for implementation.

5. The findings reinforce the literature's consensus that mastery, clarity, and contextualization are strengths, while inclusivity, innovation, and adaptive assessment remain areas for growth.

Recommendations

1. **Instructional Integration:** Adopt updated SIMs, multimedia resources, and technology-enhanced strategies to address least mastered competencies and improve learner engagement.

2. **Professional Development:** Conduct regular training, mentoring, and collaborative workshops tostrengthen adaptive strategies, technology integration, and formative assessment practices.

3. **Workload Management:** Streamline reporting requirements and balance teaching loads to maximize instructional time and reduce stress.

4. **Inclusive Practices:** Implement differentiated instruction and scaffolding to address diverse learner needs, ensuring equity and inclusivity in mathematics classrooms.

5. **Monitoring and Evaluation:** Strengthen IPCRF-based supervision and feedback systems to sustain teacher growth, accountability, and continuous improvement.

6. **Institutional Support:** Ensure that administrators, EPS, and PSDS provide consistent backing for the intervention plan, reinforcing its acceptability and long-term sustainability.

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Dedication

This thesis is lovingly dedicated to Almighty God, whose endless grace, wisdom, and strength have guided me throughout this academic journey.

I also dedicate this achievement to myself, in recognition of my perseverance, resilience, and determination to pursue this goal despite the obstacles encountered along the way.

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