

Instructional Competence of Grade 3 Mathematics Teachers in Public Elementary Schools, Malabon City Division

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Abstract

This study aimed to determine the extent of utilization of instructional competence of Grade 3 Mathematics teachers in public elementary schools in Malabon City Division for the school year 2024–2025. Specifically, it focused on learning resources content validity, appropriateness of learners' activities, congruency of the lesson plan, alignment of the assessment, and time management. Using a descriptive-correlational research design, the study surveyed 109 teachers and 4 school heads using a validated questionnaire. Data were analyzed using weighted means and t-tests. Findings revealed that teachers demonstrated a moderate extent of utilization in instructional

competence across all indicators, and no significant difference was observed between the perceptions of teachers and school heads. The degree of seriousness of problems encountered was generally moderate, with challenges including insufficient instructional materials, inadequate time management, and lack of professional development. The study recommends targeted teacher training, enhanced instructional resources, and the development of an action plan to improve instructional competence in Mathematics. These findings highlight the need for evidence-based interventions to enhance teaching effectiveness and learner outcomes in Mathematics.

Keywords: *instructional competence, Mathematics education, teacher utilization, learning resources, professional development*

INTRODUCTION

Education played a critical role in equipping students with the knowledge, skills, and attitudes necessary to succeed in life. Among the core subjects, Mathematics was essential for developing logical thinking, problem-solving abilities, and higher-order cognitive skills. However, evidence from both national and international assessments indicated that Filipino students consistently underperformed in Mathematics. For instance, the Trends in International Mathematics and Science Study (TIMSS) and the International Mathematics Olympiad revealed that the Philippines ranked low compared to neighboring countries, highlighting the need to examine instructional quality and teaching competence (DepEd, 2023). These challenges were often linked to insufficient instructional strategies, limited resources, and varying levels of teacher competence, making it imperative to investigate how teachers utilized their instructional competence in Mathematics classrooms.



Competence and learning outcomes were two distinct yet interconnected educational concepts. While competence broadly represented the applied knowledge, skills, and behaviors that learners were expected to demonstrate, learning outcomes were specific, measurable statements of achievement (Gosselin, 2017). Research showed that instructional competence—including lesson planning, utilization of learning resources, alignment of assessments, and effective time management—directly affected student performance (Sturgis, 2016; Aguila, 2015). In the Philippine context, the Department of Education (DepEd) implemented the Most Essential Learning Competencies (MELCs) to guide teachers in focusing on the most critical skills and knowledge, thereby improving instruction and student engagement (DepEd, 2017; Ravina et al., 2021). Moreover, studies emphasized that factors such as teachers' knowledge, instructional strategies, and students' study attitudes significantly influenced Mathematics achievement, demonstrating the intricate relationship between teacher competence and learner performance (Sin Son, 2023; McCombs, 2016).

Given this context, the present study aimed to determine the extent of utilization of instructional competence among Grade 3 Mathematics teachers in public elementary schools in Malabon City Division for the school year 2024–2025. Specifically, it examined how teachers and their school heads perceived the use of instructional competence in terms of learning resources content validity, appropriateness of learners' activities, congruency of lesson plans, alignment of assessments, and time management. Additionally, the study investigated whether differences existed between teachers' and school heads' perceptions, identified the seriousness of problems encountered by teachers in utilizing their competence, and proposed an action plan to enhance the effectiveness of instructional practices.

In line with these objectives, the study tested the hypothesis that there was no significant difference between the perceptions of teachers and school heads regarding the extent of utilization of instructional competence at a 0.05 level of significance. By examining these dimensions, the study intended to provide valuable insights that could help improve teaching practices, guide professional development, and ultimately enhance student learning outcomes in Mathematics.

MATERIALS AND METHODS

Research Design

The study employed a descriptive-correlational research design to examine the extent of utilization of instructional competence among Grade 3 Mathematics teachers. This design was chosen to provide an accurate description of current practices while exploring potential relationships between teachers' utilization and perceived challenges. It allowed the researchers to systematically collect quantitative data to identify patterns, trends, and differences in instructional competence. The approach is suitable for educational research where phenomena are observed without manipulation.

Participants

The participants consisted of a total enumeration of 109 Grade 3 Mathematics teachers and 4 school heads from public elementary schools in Malabon City Division. Total enumeration was used to ensure comprehensive coverage and representation of all schools within the district. The selection of participants aimed to provide insights from both classroom practitioners and school administrators regarding instructional competence. Their feedback offered a dual perspective on teaching practices, challenges, and implementation of learning standards.

Instrument

Data were gathered using a structured questionnaire adapted from Sanchez (2022), which was validated for content and clarity. Part I of the questionnaire measured the extent of utilization of



instructional competence, focusing on learning resources, learner activities, lesson plan congruency, assessment alignment, and time management. Part II explored the seriousness of problems encountered by teachers in utilizing their instructional competencies. The instrument used a Likert-scale format, facilitating quantitative analysis of responses.

Procedure

Permission to conduct the study was obtained from the Schools Division Superintendent, ensuring adherence to administrative protocols. The researchers administered the questionnaires personally, visiting each school to distribute and collect them. Data collection spanned a two-week period, during which all questionnaires were successfully retrieved, achieving a 100% response rate. This method ensured accuracy, minimized non-response, and allowed clarification of items if needed.

Data Analysis

The data were analyzed using weighted means to determine the extent of utilization of instructional competence and the seriousness of problems encountered. A t-test at a 0.05 significance level was employed to assess whether differences existed between teachers' and school heads' perceptions. This statistical approach provided a clear interpretation of descriptive and inferential data. The results helped identify areas for improvement and informed recommendations for professional development.

RESULTS AND DISCUSSIONS

EXTENT OF UTILIZATION OF THE INSTRUCTIONAL COMPETENCE ALONG WITH LEARNING RESOURCES CONTENT VALIDITY AS PERCEIVED BY THE TEACHERS AND SCHOOL HEADS

Table 2 showed that the extent of utilization of instructional competence along Learning Resources Content Validity was rated as "Moderate Extent" (ME) by both teachers and school heads, with overall weighted means of 3.18 and 3.22, respectively. Specific indicators such as assisting pupils in differentiating instructions, providing knowledge to practice new skills, and allowing learners to improve independently were consistently rated moderate. Indicators like aligning lessons to MELC standards, enhancing pupil engagement, and providing quality instruction received slightly higher ratings but remained within the moderate range, indicating partial implementation.

The findings suggested that both teachers and school heads agreed on the moderate extent of utilization, possibly due to limited training and professional development programs at the school and division levels. Differences in learners' abilities and learning styles may have affected teachers' ability to fully implement learning resources, as noted by Fernandez (2013). Larazabal (2016) highlighted that content validity could improve through drills and real-life applications, while Tayut (2023) emphasized that teachers' subject matter knowledge and technical competence strongly influenced student performance.

Overall, the study implied a need for structured professional development and targeted interventions to enhance teachers' utilization of instructional competence. Strengthening teachers' capacity in planning and using learning resources effectively could improve student engagement and learning outcomes. Limitations of the study included reliance on self-reported perceptions and the focus on Grade 3 Mathematics teachers in Malabon City, which restricted generalizability. Future studies could include classroom observations, student performance assessments, and a broader sample of teachers to validate and expand these results.

Table 2
Extent of utilization of the Instructional competence along Learning Resources Content Validity as Perceived By The Teachers And School Heads

Learning Resources Content Validity	Teachers		School heads		Overall	
	Mean	DE	Mean	DE	AW M	DE
1. Aligns lesson to content-area standards stated in Most Essential Learning Competence (MELCs)	3.41	HE	3.45	HE	3.43	HE
2. Helps increase the learning engagement and motivation of pupils.	3.45	HE	3.56	HE	3.51	HE
3. Assists pupils in the differentiation of instructions prescribed in MELCs such as giving specified guidelines that respond to individual pupil's need	2.61	ME	2.64	ME	2.63	ME
4. Provides knowledge to practice a new skill gained in class through the MELC	2.62	ME	2.6	ME	2.61	ME
5. Allows learners to further improve the extent of utilization of their performance in- dependently	2.67	ME	2.71	ME	2.69	ME
6. Acts as a guide for both the teacher and the learner	2.64	ME	2.71	ME	2.68	ME
7. Provides quality Instructional and learning.	4.02	HE	4.07	HE	4.05	HE
8. Aids in the learning process by allowing the pupils to explore the knowledge independently	3.98	HE	3.99	HE	3.99	HE
9. Provides learning skills to teach and learn by learners.	3.79	HE	3.82	HE	3.81	HE
10. Adds additional learning in line with MELCs' competence and skills	2.61	ME	2.62	ME	2.62	ME
TOTAL	3.18	ME	3.22	ME	3.20	ME

EXTENT OF UTILIZATION OF INSTRUCTIONAL COMPETENCE ALONG WITH THE APPROPRIATENESS OF LEARNERS' ACTIVITIES AS PERCEIVED BY THE TEACHERS AND SCHOOL HEADS

Table 3 revealed that the extent of utilization of instructional competence along Appropriateness of Learners Activities was rated as “Moderate Extent” (ME) overall, with average weighted means of 3.22 for teachers and 3.27 for school heads. Indicators such as providing flexible activities, producing access to quality learning activities, and examining pupils’ limitations received moderate ratings from both groups.

Meanwhile, planning for proper construction of learning materials (3.60) and catering suitable projects for learning (4.15) were rated “High Extent” (HE), showing partial strong implementation in specific areas.

The results indicated that teachers and school heads largely agreed on the moderate extent of utilization, though school heads rated slightly higher overall. This moderate implementation may have been influenced by available training programs and professional development activities in the school and division. Factors such as learners’ diverse abilities and learning needs also affected teachers’ ability to fully implement learner-appropriate activities.

The findings were consistent with Reyes (2017), who suggested that Appropriateness of Learners Activities is often among the less developed areas of instructional competence. Providing meaningful, situational, and project-based learning opportunities helps teachers adjust and enhance learners’ engagement and autonomy. Meyer (2010) emphasized that formative feedback and project-based tasks empower students to take charge of their learning, improving their participation and critical thinking skills.

Table 3
Extent of utilization of the Instructional Competence along Appropriateness of Learners Activities as Perceived by the Teachers and School Heads

Appropriateness of Learners Activities	Teachers		School heads		Overall	
	Mean	DE	Mean	DE	AWM	DE
1. Provides flexible activities for all learning areas as to its MELC.	3.35	ME	3.29	ME	3.32	ME
2. Produces access to an array of quality learning activities.	3.23	ME	3.36	ME	3.30	ME
3. Examines pupils’ limitations in learning	3.11	ME	3.17	ME	3.14	ME
4. Considers the strengths and weaknesses of the learners in answering learning activities.	3.24	ME	3.21	ME	3.23	ME
5. Plans for proper construction of the learning materials in Mathematics .	3.55	HE	3.64	HE	3.60	HE
6. Applies evaluation and reflection on the results of the assessment of the activities.	3.30	ME	3.33	ME	3.32	ME
7. Issues follow-up learning activities based on the least mastered skills of the learners.	2.71	ME	2.75	ME	2.73	ME
8. Endorses educational pursuits to be in line with the MELC.	2.82	ME	2.86	ME	2.84	ME
9. Organizes tasks based on the subject matter or content and activities	2.78	ME	2.87	ME	2.83	ME
10. Caters to a suitable project for proper learning.	4.11	HE	4.19	HE	4.15	HE
Total	3.22	ME	3.27	ME	3.24	ME

EXTENT OF UTILIZATION OF THE INSTRUCTIONAL COMPETENCE ALONG CONGRUENCY OF THE LESSON PLAN AS PERCEIVED BY THE TEACHERS AND SCHOOL HEADS

Table 4 shows that the overall extent of utilization of instructional competence along Congruency of the Lesson Plan was rated as “Moderate Extent” (ME), with an average weighted mean of 3.14 for both teachers and school heads. Individual indicators, such as teaching in connection to realistic situations, keeping learners motivated, and linking skills to lesson content, all received moderate ratings, indicating a consistent but moderate implementation of lesson plan congruency across classrooms.

The results revealed that teachers and school heads largely agreed on the moderate extent of utilization, although school heads rated slightly higher on certain indicators. This similarity suggests that the moderate implementation was due to the existing practices and resources within the school and division. It also implies that further strengthening is needed to fully address the needs of struggling learners in lesson plan alignment.

These findings align with Parsonson (2022), who emphasized that teachers are the most critical factor influencing student achievement and must create an environment that accommodates diverse learner needs. Similarly, Naz (2018) and Balagtas (2018) argued that teachers should provide varied learning activities, allocate additional support for weaker learners, and use strategies that enhance comprehension and engagement. Competency in employing diverse teaching techniques remains essential for improving the congruency of lesson plans and maximizing student learning outcomes.

Table 4
Extent of utilization of the Instructional Competence along Congruency of the Lesson Plan as Perceived by the Teachers and School Heads

Congruency of the Lesson Plan	Teachers		School heads		Overall	
	Mean	DE	Mean	DE	AW M	DE
1. Teaches in connection to realistic situations related to the lessons pre- scribed in MELC	2.76	ME	3.02	ME	2.89	ME
2. Keeps the learners motivated and engaged inside the classroom through the lessons focusing on MELC	3.35	ME	3.40	ME	3.38	ME
3. Helps the students to remember the content of the lesson	3.23	ME	3.25	ME	3.24	ME
4. Makes learning relevant to the needed skills by the learners.	2.87	ME	2.91	ME	2.89	ME
5. Engages and motivates learners with learning difficulties	3.3	ME	3.25	ME	3.28	ME
6. Increases learner enthusiasm in learning through the lessons enhancing the MELC of pupils.	2.87	ME	2.91	ME	2.89	ME
7. Enhances the lesson through its alignment with the needed skills of the learners.	3.22	ME	3.31	ME	3.27	ME
8. Uses strategies in delivering the lesson to the pupils that will develop their skills.	3.02	ME	3.15	ME	3.09	ME
9. Links the learning skills to the academic content of the lesson.	3.27	ME	3.29	ME	3.28	ME

10. Focuses on the applications of the specific context that is to develop the skills of the learners.	3.17	ME	3.23	ME	3.20	ME
Total	3.11	ME	3.17	ME	3.14	ME

EXTENT OF UTILIZATION OF THE INSTRUCTIONAL COMPETENCE ALONG WITH ALIGNMENT OF ASSESSMENT AS PERCEIVED BY THE TEACHERS AND SCHOOL HEADS

Table 5 shows that both teachers and school heads rated several indicators along Alignment of Assessment as “High Extent” (HE), including the use of favorable evaluation tools, test questions with a table of specifications based on MELCs, and examinations providing real-time feedback. This indicates that both groups had a strong understanding and practice of assessment alignment in the classroom, contributing to better monitoring of student learning.

Meanwhile, several indicators were rated “Moderate Extent” (ME) by both teachers and school heads, such as manipulating attainable activities for assessment, providing timely responses to learners, reviewing progress, and conducting remedial instruction. These results suggest that although assessment practices were implemented, certain aspects—like follow-up interventions and reflective practices—were not consistently applied across classrooms, indicating room for improvement.

Overall, the average weighted means of 3.16 (ME) for both groups reflected a moderate extent of utilization of instructional competence along Alignment of Assessment. This moderate extent may be attributed to teachers’ professional experience, prior trainings, and knowledge of assessment strategies, which allowed them to implement assessments effectively while still highlighting areas needing further capacity building. These findings align with Safer and Fleischman (2013) and Kaplan and Owings (2017), who emphasized that systematic assessment practices and content knowledge significantly enhance student achievement and instructional quality.

Table 5
Extent of Utilization of Instructional Competence along with Alignment of Assessment as Perceived by the Teachers and School Heads

Alignment of Assessment	Teachers		School Heads		Overall	
	Mean	DE	Mean	DE	AW M	DE
1. Manipulates activities for the pupils that are attainable to help in giving assessment	2.71	ME	2.98	ME	2.85	ME
2. Uses a favorable evaluation tools	3.42	HE	3.48	HE	3.45	HE
3. Delivers test questions with a table of specifications based on MELCs	3.50	HE	3.53	HE	3.52	HE
4. Makes use of examinations that provide real-time feedback and analysis	3.4	HE	3.45	HE	3.43	HE

5. Provides timely response to learners, so they can find the answers and acquire a sense of achievement in the lessons	3.01	ME	3.15	ME	3.08	ME
6. Supplies various mechanisms in retrieval and checking of the answered materials	2.67	ME	2.81	ME	2.74	ME
7. Reviews pupils' progress in each subject and draft individual comments for report cards	3.05	ME	3.28	ME	3.17	ME
8. Implements internal consultation and meaning construction by reflection on the learning results and learning process.	3.23	ME	3.34	ME	3.29	ME
9. Utilizes learning assessment in creating necessary interventions for pupils.	3.07	ME	3.21	ME	3.14	ME
10. Conducts remedial to develop skills based on the results of the assessment.	2.91	ME	2.98	ME	2.95	ME
Total	3.10	ME	3.22	ME	3.16	ME

EXTENT OF UTILIZATION OF THE INSTRUCTIONAL COMPETENCE ALONG TIME MANAGEMENT AS PERCEIVED BY THE TEACHERS AND SCHOOL HEADS

Table 6 presented the results on the extent of utilization of instructional competence along Time Management as perceived by teachers and school heads. Most indicators were rated as Moderate Extent (ME), including following the time allotted for each lesson, preparing instructional materials, reviewing corrected learning materials, planning additional learning activities, organizing timetables, and allowing planning based on lesson outcomes.

In contrast, indicators such as paying attention to supporting the daily lesson and outcome were rated High Extent (HE), while planning a learning process focused on student learning received a Very High Extent rating. These results suggested that teachers demonstrated skills in implementing time management strategies in their classrooms, but their application was not consistently at a high level across all indicators.

Overall, both teachers and school heads concurred on a Moderate Extent (ME) of utilization of instructional competence along Time Management, as indicated by the average weighted mean of 3.18. The consistency in ratings implied similar perceptions of implementation, highlighting the need for teachers to strengthen their time management skills to further improve instructional efficiency and classroom outcomes.

Table 6
Extent of Utilization of Instructional Competence along with Time Management as Perceived by the Teachers and School Heads

Time Management	Teachers		School Heads		Overall	
	Mean	DE	Mean	DE	AWM	DE
1. Follows the time allotted for each lesson specified in MELC.	3.30	ME	3.21	ME	3.25	ME
2. Spends more time in preparing instructional materials	2.71	ME	2.25	ME	2.48	ME

3. Helps pupils to review corrected learning materials for mastery or improvement.	3.07	ME	3.02	ME	3.05	ME
4. Increases planning time for additional significant learning activities for students.	2.79	ME	2.45	ME	2.62	ME
5. Makes a schedule to help students reach their potential.	3.27	ME	3.29	ME	3.28	ME
6. Organizes timetable for review of lessons	3.24	ME	3.21	ME	3.23	ME
7. Plans a learning process that focuses on student learning	4.67	HE	4.69	HE	4.68	HE
8. Pays more attention to supporting the daily lesson and outcome	3.41	HE	3.56	HE	3.49	HE
9. Provides hour to identify problems in class discussions	2.89	ME	2.93	ME	2.91	ME
10. Allows planning ahead based on the outcome of the lesson.	2.78	ME	2.82	ME	2.80	ME
Total	3.21	ME	3.14	ME	3.18	ME

DIFFERENCES IN THE EXTENT OF UTILIZATION OF THE INSTRUCTIONAL COMPETENCE BETWEEN THE TEACHERS AND SCHOOL HEADS

Table 7 presented the differences between the perceptions of teachers and school heads on the six areas of instructional competence. The computed t-value of 0.1316 at $df = 3$ was lower than the critical t-value of 2.3418 at a 0.05 level of significance. This indicated that the null hypothesis was accepted, showing no significant difference between the perceptions of teachers and school heads.

The findings implied that both groups shared similar views on the extent of utilization of instructional competence across all areas, as confirmed by the statistical computation. This similarity suggested a shared understanding and consistent implementation of instructional practices between teachers and their school heads.

Table 7
Significant Differences in the Extent of Utilization of the Instructional Competence Between the Teachers and School Heads

Instructional Competence	Teachers		School Heads	
	Weighted Mean	DE	Weighted Mean	DE
1. Learning Resources Content Validity	3.18	ME	3.22	ME
2. Appropriateness of Learners Activities	3.22	ME	3.27	ME
3. Congruency of the Lesson Plan	3.11	ME	3.17	ME
4. Alignment of Assessment	3.10	ME	3.22	ME
5. Time Management	3.21	ME	3.14	ME
Total	3.16	ME	3.20	ME

Computed *t*-value: 0.1316@ *df* 3
 Alpha: @ 0.05 extent of utilization of significance
 Critical Value: 2.3418, *df* 3
 Decision: accept the null hypothesis
 Interpretation: No significant difference

EXTENT OF SERIOUSNESS OF PROBLEMS ENCOUNTERED BY TEACHERS

Table 8 presents the extent of seriousness of problems encountered by teachers in the utilization of instructional competence. The overall results indicated that the problems were “Moderately Serious” (MS), as reflected by an average mean rating of 2.21.

Specifically, the indicators rated as moderately serious included lack of financial resources (2.06), lack of feedback on the evaluation of existing MELCs from teachers (1.88), lack of cooperation from parents and students (2.05), limited assistance from the school and at home (2.03), filling learning gaps through interventions (2.16), and inability to teach some pupils (2.29).

Meanwhile, teachers rated the following indicators as “Serious” (S): lack of available learning resources (2.59), lack of training on how to maximize the utilization of MELCs (2.27), lack of experience with the technology needed to prepare learning materials (2.54), and lack of programs for social-emotional needs and student safety (2.24). These results implied that while most challenges were moderate, certain critical issues such as resource availability and teacher preparedness remained serious barriers to effective instructional competence.

Table 8
Degree of Seriousness of Problems Encountered

Indicators	Teachers		Rank
	Mean	DE	
1. Lack of available learning resources	2.59	S	1
2. Lack of training as to how the utilization of MELCs will maximize to its fullest extent.	2.27	S	3
3. Lack of teacher’s experience with the technology needed to prepare various learning materials .	2.54	S	2
4. Lack of financial resources	2.06	MS	7
5. Lack of feedback as to the evaluation of the existing MELCs from teachers.	1.88	MS	10
6. Lack of cooperation from parents and students.	2.05	MS	8
7. Limited assistance from the school and at home	2.03	MS	9
8. Filling the learning gaps of my pupils through interventions	2.16	MS	6
9. Lack of programs for social-emotional needs and safety concerns for students	2.24	S	4
10. Inability to teach some of my pupils	2.29	MS	5
Total	2.21	MS	

Conclusion

The study concluded that both teachers and school heads agreed that the extent of utilization of instructional competence among mathematics teachers was fairly implemented. Their perceptions were consistent, showing no significant differences, while the problems encountered were rated as moderately serious, particularly in areas such as learning resources, training on MELC utilization, and technology use. To address these issues, teachers are encouraged to strengthen instructional practices by adjusting lessons, reteaching concepts, or providing additional practice opportunities to improve student learning. School administrators should support teachers with necessary resources and materials, while the Department of Education should continue offering relevant seminars and training to develop complex skills and competencies. Finally, the proposed action plan may be presented to the Schools Division Superintendent for potential division-wide implementation to enhance the utilization of instructional competence among mathematics teachers.

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