

Early Implementation of the Matatag Science Curriculum in Junior High School: Teachers' Competence, Challenges, and Coping Mechanisms

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DOI: <https://doi.org/10.47772/IJRISS.2026.1026EDU0239>

Received: 21 April 2026; Accepted: 27 April 2026; Published: 14 May 2026

ABSTRACT

The implementation of the MATATAG Science curriculum represents a significant reform in Philippine basic education, emphasizing foundational competencies and streamlined learning content. Understanding how teachers navigate this transition is essential for ensuring effective curriculum delivery. A mixed-methods approach using an explanatory sequential design was employed to examine teachers' competence, the challenges encountered, and the coping mechanisms utilized during the early implementation of the MATATAG Science curriculum in public junior high schools in the Division of Valencia City. Quantitative data were gathered from 31 Grade 7 and Grade 8 Science teachers using an adapted survey questionnaire, while qualitative insights were obtained from six selected participants through semi-structured interviews. Findings revealed that teachers demonstrated a very high level of competence across most domains, particularly in pedagogical competence and assessment practices, while instructional delivery showed relatively lower ratings. Challenges were found to often affect implementation, with classroom management and curriculum-related difficulties being the most prominent, while training and professional support challenges were moderately experienced. Correlation analysis indicated no significant overall relationship between competence and challenges, suggesting that external factors such as classroom conditions and institutional support significantly influence implementation outcomes. Qualitative findings identified four major coping mechanisms: instructional adaptation, collaboration, resourcefulness, and personal resilience. These results highlight that while teachers are highly competent, sustained support systems, improved classroom conditions, and targeted professional development are essential to enhance curriculum implementation. Strengthening both teacher capacity and institutional support is crucial for achieving the intended goals of the MATATAG Science curriculum.

Keywords: MATATAG curriculum, teacher competence, implementation challenges, coping mechanisms, science education.

INTRODUCTION

Background of the Study

Educational systems worldwide continue to undergo curriculum reforms to enhance learning outcomes and prepare students for evolving global demands, particularly in science and technology education. These reforms aim to strengthen foundational competencies, promote critical thinking, and ensure deeper conceptual understanding among learners. However, research consistently emphasizes that the success of curriculum reforms largely depends on teachers' competence, readiness, and the support systems available during implementation. Teachers are expected to possess strong pedagogical skills, content knowledge, and instructional competence to effectively translate curriculum goals into classroom practice (Decoito & Estaiteyeh,

2022). Without adequate preparation and sustained professional support, even well-designed curricula may not achieve their intended outcomes.

Globally, studies have documented that teachers encounter significant challenges during the early stages of curriculum implementation. These challenges include limited instructional resources, insufficient training, and difficulties aligning teaching practices with new standards. Research shows that inadequate institutional support and lack of professional development opportunities hinder teachers' ability to effectively implement competency-based curricula (Nasution & Indrasari, 2024). As a result, teachers are often required to go beyond competence and develop adaptive strategies to cope with these challenges, highlighting the importance of both capability and resilience in curriculum implementation.

In the Philippine context, the Department of Education introduced the MATATAG Curriculum as a major reform initiative aimed at decongesting content and strengthening foundational skills. While this reform seeks to improve learning outcomes, teachers have reported various difficulties during its early implementation. Studies found that teachers struggle with interpreting new competencies, aligning instructional strategies, and addressing gaps in resources and training (Maraveles & Ducot, 2025). Similarly, Philippine-based research revealed that although teachers generally have positive perceptions of the MATATAG curriculum, operational challenges such as increased workload, limited resources, and insufficient professional support continue to affect implementation (Prado & Asparin, 2025). Despite these findings, there remains a lack of studies that examine how teachers cope with these challenges and what forms of support effectively enhance their coping mechanisms in specific local settings.

Addressing these concerns requires not only assessing teachers' competence but also understanding how they respond to challenges during implementation. Teacher competence, including pedagogical skills, curriculum knowledge, instructional delivery, and classroom management, also provides a foundation for effective teaching. However, studies suggest that competence alone is insufficient without adequate support systems and adaptive coping strategies (Elardo, 2025). Examining both competence and coping mechanisms allows for a more comprehensive understanding of implementation, enabling stakeholders to identify areas where teachers require additional training, resources, and institutional support.

The findings of this study are expected to provide valuable insights into the early implementation of the MATATAG Science curriculum in junior high schools. By examining teachers' competence, challenges, and coping mechanisms, the study can inform educational policies and guide professional development initiatives. Evidence suggests that targeted support systems, including collaborative learning environments and continuous training, significantly improve teaching effectiveness and curriculum implementation (Jeptepkeny & Keter, 2025). Thus, identifying gaps in both competence and support structures may help strengthen institutional responses to curriculum reform.

Previous research further supports the importance of integrating competence, challenges, and coping mechanisms in understanding curriculum implementation. Studies have shown that while teachers demonstrate readiness and willingness to adopt new curricula, they continue to experience persistent challenges related to training, resources, and instructional adaptation (Borreo, 2023). Additionally, research highlights that teachers' coping strategies, such as collaboration, resourcefulness, and adaptive teaching, which play a critical role in mitigating these challenges and sustaining effective instruction (Sanchez & Mananquil, 2023). However, limited studies have explored these variables collectively within the context of the MATATAG curriculum, particularly in localized school settings.

Given these considerations, this study aims to examine the early implementation of the MATATAG Science curriculum in selected junior high schools in the Division of Valencia City. Specifically, it seeks to determine the level of teacher competence, identify the challenges encountered during implementation, and explore the coping mechanisms employed by teachers in addressing these challenges. Through this investigation, the study intends to contribute empirical evidence that may support the improvement of science curriculum implementation, enhance teacher support systems, and strengthen teacher preparedness in the Philippine basic education system.

Statement of the Problem

This study examined the early implementation of the MATATAG Science curriculum in selected junior high schools in the Division of Valencia City.

Specifically, it sought to answer the following questions:

1. What was the level of teachers' competence in implementing the MATATAG Science curriculum in terms of:
 - a. pedagogical competence;
 - b. curriculum knowledge and understanding;
 - c. instructional delivery;
 - d. classroom management; and
 - e. assessment practices?
2. What was the level of challenges encountered by teachers in implementing the MATATAG Science curriculum in terms of:
 - a. curriculum and instructional challenges;
 - b. classroom and learner management challenges; and
 - c. training and professional support challenges?
3. Is there a significant relationship between teachers' level of competence and the level of challenges encountered in implementing the MATATAG Science curriculum?
4. What coping mechanisms were employed by teachers to address the challenges encountered in implementing the MATATAG Science curriculum?

Hypothesis

To determine whether a relationship exists between the variables, the following null hypothesis was tested:

H₀: There is no significant relationship between teachers' level of competence and the level of challenges encountered in the implementation of the MATATAG Science curriculum.

METHODOLOGY

Research Design

This study utilized a mixed-methods research design, specifically an explanatory sequential approach. The quantitative phase was conducted first to determine the level of teachers' competence and the challenges encountered in implementing the MATATAG Science curriculum using a survey questionnaire. This was followed by a qualitative phase, which explored the coping mechanisms employed by teachers through semi-structured interviews. The integration of both quantitative and qualitative data provided a comprehensive understanding of the early implementation of the MATATAG Science

Locale of the Study

The study was conducted in all public secondary schools in the Division of Valencia City, Bukidnon, during the second semester of the academic year 2025–2026. The locale covered schools offering junior high school education, particularly those with Science teachers handling Grade 7 and Grade 8. All eligible Science teachers

teaching these grade levels were included, as they were directly involved in the early implementation of the MATATAG Science curriculum.

Participants and Sampling of the Study

The respondents of the study consisted of 31 Science teachers teaching Grade 7 and Grade 8 in public secondary schools within the Division of Valencia City. These teachers were selected using purposive sampling, as they were directly involved in the early implementation of the MATATAG Science curriculum and met the specific criteria of teaching the identified grade levels. For the qualitative phase, six (6) teachers were chosen from the survey respondents to participate in semi-structured interviews. These participants were selected based on their experiences and willingness to provide in-depth insights regarding their coping mechanisms in addressing implementation challenges.

Research Instruments

The primary instrument used in this study was an adapted and modified survey questionnaire designed to gather quantitative data on teachers' competence and the implementation challenges encountered during the early implementation of the MATATAG Science curriculum. The questionnaire consisted of two major parts.

The first part measured the level of teachers' competence in implementing the MATATAG Science curriculum. This section was adapted from the Teacher Skills and Competence Questionnaire (TSCQ) developed by Loseñara and Jugar (2023), which assesses teacher competence in the areas of pedagogical competence, curriculum knowledge and understanding, instructional delivery, classroom management, and assessment practices. Each domain consisted of ten (10) revised and contextualized statements to ensure alignment with the MATATAG Science curriculum and the junior high school setting.

The second part measured the implementation challenges encountered by Science teachers during the early implementation of the MATATAG Science curriculum. The indicators were adapted from the studies of Elardo (2025) and Prado and Asparin (2025), which examined teachers' preparedness, support needs, and challenges in implementing the MATATAG curriculum. This section focused on three domains: curriculum and instructional challenges, classroom and learner management challenges, and training and professional support challenges, with ten (10) statements for each domain.

For the qualitative component, a semi-structured interview guide was used to explore the coping mechanisms employed by selected teachers in addressing the challenges they encountered. The guide included open-ended questions that allowed participants to share their experiences, strategies, and insights regarding curriculum implementation. The responses served as the basis for thematic analysis.

Since the instrument was adapted and modified, it underwent reliability testing to ensure consistency of the responses. Furthermore, all items were reviewed and validated by experts to ensure clarity, relevance, and alignment with the objectives of the study.

Statistical Technique and Data Analysis

Descriptive statistics such as mean and standard deviation were used to determine the level of teachers' competence and the extent of challenges encountered in implementing the MATATAG Science curriculum. To examine the relationship between teachers' competence and the challenges encountered, Pearson Product-Moment Correlation (r) was utilized.

For the qualitative data, responses from the interviews were analyzed using thematic analysis following Braun and Clarke (2006), which involved coding, categorizing, and identifying emerging themes related to teachers' coping mechanisms. The integration of quantitative and qualitative findings provided a comprehensive interpretation of the results.

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Level of Teacher’s Skills and Competence

This section presents the results on the level of teachers’ competence in implementing the MATATAG Science curriculum, focusing on key domains such as pedagogy, curriculum knowledge, instructional delivery, classroom management, and assessment practices.

Table 1. Teacher’s Skills and Competence in terms of Pedagogical Competence

Indicators	Mean	Standard Deviation	Interpretation
I can manage class discussions that promote critical thinking and scientific reasoning.	4.68	.475	Competence is at a Very High Level
I can apply learner-centered strategies that support the goals of the MATATAG Science curriculum.	4.68	.475	Competence is at a Very High Level
I can motivate students to actively participate in Science learning activities.	4.61	.495	Competence is at a Very High Level
I chose SMAW because learning is genuinely interesting to me.	4.52	.724	Competence is at a Very High Level
I can connect prior knowledge to new Science lessons effectively.	4.45	.506	Competence is at a Very High Level
I can explain Science concepts in ways that are understandable to junior high school learners.	4.39	.495	Competence is at a Very High Level
I can use varied teaching strategies to address students from different backgrounds.	4.32	.653	Competence is at a Very High Level
I can sustain students’ interest throughout the Science lesson.	4.29	.643	Competence is at a Very High Level
I can create meaningful learning experiences that support MATATAG learning competencies.	4.26	.682	Competence is at a Very High Level
I can facilitate inquiry-based and hands-on learning activities in Science.	4.19	.792	Competence is at a High Level
Total	4.42	0.421	Competence is at a Very High Level

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Competence is at a very high level.
4	3.41-4.20	Agree (A)	Competence is at a high level.
3	2.61-3.40	No Opinion (NO)	Competence is at moderately Level
2	1.81-2.60	Disagree (D)	Competence is at a low level.
1	1.00-1.80	Strongly Disagree (SD)	Competence is at a very low level.

The data in Table 1 show that teachers’ competence in terms of pedagogical competence is generally at a very high level, with an overall mean of 4.42 (SD = 0.421). The highest mean (M = 4.68) was obtained in managing class discussions that promote critical thinking and scientific reasoning and applying learner-centered strategies aligned with the MATATAG Science curriculum. In contrast, the lowest mean (M = 4.19) was observed in facilitating inquiry-based and hands-on learning activities in Science, although it is still interpreted as high competence. The remaining indicators also fall within the very high competence level, indicating that teachers consistently demonstrate strong pedagogical practices across different instructional aspects.

The results indicate that teachers possess strong pedagogical competence, particularly in fostering discussion-based and learner-centered instruction. This suggests that teachers are capable of creating engaging learning environments and promoting critical thinking among students. However, the relatively lower mean in inquiry-based and hands-on learning implies that teachers may encounter some challenges in implementing more experiential and student-centered approaches. This gap may be influenced by external factors such as limited resources, insufficient time, or lack of specialized training in conducting inquiry-based activities.

The results are supported by existing literature emphasizing the importance of pedagogical competence in enhancing student engagement and instructional effectiveness. Samson and Yango (2023) found that teachers with high levels of pedagogical competence are more effective in promoting student engagement, particularly when they utilize interactive and learner-centered teaching strategies. Similarly, Tam and Hui (2023) reported that teachers who effectively apply innovative and student-centered approaches are able to foster deeper interaction and participation among learners. These findings support the present study, where teachers demonstrated very high competence in learner-centered strategies and classroom discussions.

Furthermore, the findings are consistent with studies highlighting both strengths and limitations in pedagogical competence during curriculum implementation. Pengabdian et al. (2025) reported that continuous training significantly improves teachers' pedagogical competence, particularly in aligning instruction with curriculum goals. However, Supriyadi et al. (2025) noted that despite high levels of teacher competence, challenges remain in implementing inquiry-based and technology-supported learning due to limited resources and training. This aligns with the present study's finding where inquiry-based learning received the lowest mean, suggesting that external constraints may limit teachers' ability to fully implement such strategies despite their overall high competence.

Table 2. Teacher's Skills and Competence in terms of Curriculum Knowledge and Understanding

Indicators	Mean	Standard Deviation	Interpretation
I can align my lesson objectives with the prescribed MATATAG competencies.	4.42	.722	Competence is at a Very High Level
I understand the goals and guiding principles of the MATATAG Science curriculum.	4.35	.709	Competence is at a Very High Level
I can plan lessons that reflect the intended outcomes of the MATATAG curriculum.	4.35	.486	Competence is at a Very High Level
I understand the scope and sequence of Science topics under the new curriculum.	4.32	.702	Competence is at a Very High Level
I understand how MATATAG promotes foundational skills and learner development.	4.29	.693	Competence is at a Very High Level
I am familiar with the learning competencies required in junior high school Science under MATATAG.	4.29	.824	Competence is at a Very High Level
I can identify the most essential learning competencies that should be prioritized.	4.29	.693	Competence is at a Very High Level
I can integrate curriculum content across related Science topics.	4.23	.669	Competence is at a Very High Level
I can interpret curriculum standards and learning outcomes accurately.	4.19	.654	Competence is at a High Level
I can explain the curriculum changes from the previous Science curriculum to MATATAG.	3.84	.688	Competence is at a High Level
Total	4.26	0.585	Competence is at a Very High Level

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Competence is at a very high level.
4	3.41-4.20	Agree (A)	Competence is at a high level.
3	2.61-3.40	No Opinion (NO)	Competence is at moderately Level
2	1.81-2.60	Disagree (D)	Competence is at a low level.
1	1.00-1.80	Strongly Disagree (SD)	Competence is at a very low level.

Following the very high level of teachers’ pedagogical competence presented in Table 1, Table 2 shows the results on teachers’ competence in terms of curriculum knowledge and understanding, which is also interpreted at a very high level with an overall mean of 4.26 (SD = 0.585). The highest mean (M = 4.42) was obtained in aligning lesson objectives with the prescribed MATATAG competencies, while the lowest mean (M = 3.84) was observed in explaining the curriculum changes from the previous Science curriculum to MATATAG, interpreted as high competence. The rest of the indicators consistently fall within the very high competence level, indicating that teachers possess a strong understanding of curriculum standards, competencies, and content organization.

The findings indicate that teachers are highly capable of aligning their lesson planning and instructional practices with the MATATAG curriculum requirements. Their strong familiarity with competencies, scope and sequence, and curriculum standards suggests that they are well-equipped to implement the curriculum effectively. However, the relatively lower mean in explaining curriculum changes implies that teachers may still be adjusting to the transition from the previous curriculum to MATATAG. This may reflect a need for deeper orientation or clearer communication regarding curriculum shifts and reforms.

The findings are supported by literature emphasizing the importance of curriculum knowledge in successful curriculum implementation. Nihayah et al. (2023) found that teachers’ ability to interpret and align curriculum standards significantly influences instructional quality and student learning outcomes. Similarly, Decoito and Estaiteyeh (2022) reported that gaps in teachers’ curriculum knowledge can negatively affect lesson planning, assessment practices, and the overall effectiveness of instruction, particularly during transitions to new modes of teaching. These findings align with the present study, where teachers demonstrated strong competence in curriculum alignment but showed relatively lower confidence in explaining curriculum changes.

Moreover, the results are consistent with studies highlighting the role of training and support in strengthening curriculum understanding. Saro et al. (2024) found that while teachers perceive new curricula as beneficial for enhancing student learning, they often require additional training and support to fully understand and implement curriculum changes. Likewise, Maraveles and Ducot (2025) identified that lack of familiarity with new competencies and curriculum adjustments is a major challenge during the early implementation of the MATATAG curriculum. This supports the present finding where explaining curriculum changes obtained the lowest mean, suggesting that despite high overall competence, teachers may still need further support in fully internalizing the new curriculum framework.

On the other hand, table 3 presents the results on teachers’ competence in terms of instructional delivery, which is interpreted at a high level with an overall mean of 4.18 (SD = 0.519). The highest mean (M = 4.39) was obtained in using teaching strategies that encourage active student engagement, followed by indicators related to pacing and clarity of instruction. On the other hand, the lowest mean (M = 3.97) was recorded in facilitating laboratory, demonstration, or simulation activities effectively, although still within the high competence level. Most indicators fall within the high to very high range, indicating that teachers are generally effective in delivering instruction under the MATATAG curriculum.

The findings suggest that teachers are particularly strong in delivering engaging and structured lessons, which supports active student participation and understanding. Their ability to adjust pacing and provide clear explanations indicates flexibility and responsiveness to learners’ needs. However, the relatively lower rating in facilitating laboratory and simulation activities implies that teachers may face challenges in implementing more hands-on and experiential components of science instruction. This may be influenced by limited access to laboratory facilities, insufficient materials, or time constraints in classroom settings.

The results are supported by existing studies emphasizing the role of instructional delivery in enhancing student engagement and learning outcomes. Samson and Yango (2023) found that effective instructional strategies, particularly those that promote active engagement, significantly improve students' participation and learning experiences. Similarly, Sulistiani et al. (2025) reported that teachers who effectively implement structured instructional approaches, such as guided and scaffolded learning activities, demonstrate strong instructional competence, although challenges remain in managing diverse learners and maintaining equal participation. These findings support the present study, where teachers showed high competence in instructional clarity and engagement.

Table 3. Teacher's Skills and Competence in terms of Instructional Delivery

Indicators	Mean	Standard Deviation	Interpretation
I can use teaching strategies that encourage active student engagement.	4.39	.667	Competence is at a Very High Level
I can adjust the pacing of lessons based on students' understanding.	4.32	.653	Competence is at a Very High Level
I can provide clear explanations for difficult Science concepts.	4.32	.653	Competence is at a Very High Level
I can use varied instructional materials to support Science teaching.	4.23	.762	Competence is at a Very High Level
I can integrate practical examples and real-life applications in my lessons.	4.19	.749	Competence is at a High Level
I can use technology to support Science instruction when needed.	4.16	.583	Competence is at a High Level
I can deliver Science lessons clearly and systematically under the MATATAG curriculum.	4.10	.746	Competence is at a High Level
I can organize lessons in ways that help students achieve intended competencies.	4.10	.597	Competence is at a High Level
I can maintain lesson flow while addressing students' questions and misconceptions.	4.06	.727	Competence is at a High Level
I can facilitate laboratory, demonstration, or simulation activities effectively.	3.97	.605	Competence is at a High Level
Total	4.18	0.519	Competence is at a High Level

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Competence is at a very high level.
4	3.41-4.20	Agree (A)	Competence is at a high level.
3	2.61-3.40	No Opinion (NO)	Competence is at moderately Level
2	1.81-2.60	Disagree (D)	Competence is at a low level.
1	1.00-1.80	Strongly Disagree (SD)	Competence is at a very low level.

Moreover, the findings align with studies highlighting limitations in implementing hands-on and technology-supported instruction. Supriyadi et al. (2025) emphasized that while teachers are generally competent in delivering content, challenges in implementing simulations and practical activities persist due to limited infrastructure and training. In a Philippine context, Saro et al. (2024) also noted that although teachers recognize the value of interactive and real-world learning approaches under the MATATAG curriculum, they often require additional support and resources to fully implement these strategies. This supports the present study's finding where laboratory and simulation activities obtained the lowest mean, suggesting that external constraints may limit the full implementation of experiential learning despite teachers' overall competence.

Following instructional delivery, table 4 presents the results on teachers' competence in terms of classroom management, which is interpreted at a very high level with an overall mean of 4.25 (SD = 0.544). The highest mean (M = 4.35) was obtained in several indicators, including maintaining students' focus during lessons despite distractions, maintaining an orderly and safe classroom environment, managing student behavior during Science activities and experiments, and establishing classroom routines that support effective learning. On the other hand, the lowest mean (M = 3.84) was recorded in addressing classroom disruptions appropriately, although it is still interpreted as high competence. The rest of the indicators fall within the high to very high range, indicating that teachers consistently demonstrate strong classroom management practices.

The findings suggest that teachers are highly capable of maintaining structure, discipline, and a conducive learning environment in their classrooms. Their ability to sustain student focus, manage behavior, and establish effective routines reflects strong control and organization, which are essential for successful teaching and learning. However, the relatively lower score in addressing classroom disruptions implies that teachers may still encounter challenges in managing unexpected or disruptive behaviors in real-time classroom situations. This may be influenced by increasing classroom diversity, student behavior complexities, or limited strategies for handling disruptions effectively.

Table 4. Teacher's Skills and Competence in terms of Classroom Management

Indicators	Mean	Standard Deviation	Interpretation
I can maintain students' focus during lessons despite distractions.	4.35	.486	Competence is at a Very High Level
I can maintain an orderly and safe classroom environment.	4.35	.709	Competence is at a Very High Level
I can manage student behavior during Science activities and experiments.	4.35	.486	Competence is at a Very High Level
I can establish classroom routines that support effective Science learning.	4.35	.661	Competence is at a Very High Level
I can maximize class time for meaningful learning tasks.	4.32	.653	Competence is at a Very High Level
I can organize classroom resources efficiently for Science instruction.	4.29	.693	Competence is at a Very High Level
I can ensure that classroom rules support learning and discipline.	4.29	.693	Competence is at a Very High Level
I can create a classroom atmosphere that encourages participation.	4.19	.654	Competence is at a High Level
I can manage group activities effectively during Science lessons.	4.13	.763	Competence is at a High Level
I can address classroom disruptions appropriately.	3.84	.969	Competence is at a High Level
Total	4.25	0.544	Competence is at a Very High Level

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Competence is at a very high level.
4	3.41-4.20	Agree (A)	Competence is at a high level.
3	2.61-3.40	No Opinion (NO)	Competence is at moderately Level
2	1.81-2.60	Disagree (D)	Competence is at a low level.
1	1.00-1.80	Strongly Disagree (SD)	Competence is at a very low level.

The findings are supported by studies emphasizing the critical role of classroom management in teaching effectiveness and student engagement. Granada and Oco (2024) found that teachers who demonstrate high competence in classroom management also exhibit strong teaching performance, as effective management practices contribute to better organization, student participation, and learning outcomes. Similarly, Aldanese and Limpot (2023) reported that classroom management significantly influences student engagement, serving as a key factor in facilitating effective instruction and maintaining active participation. These findings support the present study, where teachers demonstrated very high competence in maintaining order and engagement.

Moreover, the results align with studies highlighting both strengths and challenges in classroom management practices. Naquila and Curayag (2025) found that teachers generally demonstrate effective classroom management strategies but must continuously refine their approaches to adapt to students' evolving needs. In addition, Jumao-as (2025) reported that although teachers frequently apply classroom management strategies, challenges such as behavioral issues and limited resources still affect their effectiveness. This supports the present finding where addressing disruptions obtained the lowest mean, suggesting that despite overall strong competence, teachers may still need further support in handling complex classroom situations.

Table 5. Teacher's Skills and Competence in terms of Assessment Practices

Indicators	Mean	Standard Deviation	Interpretation
I can design assessments aligned with MATATAG Science competencies.	4.65	0.486	Competence is at a Very High Level
I can use varied assessment methods such as quizzes, performance tasks, and projects.	4.45	0.568	Competence is at a Very High Level
I can prepare assessment tasks that measure understanding of Science concepts.	4.42	0.720	Competence is at a Very High Level
I can use formative assessments to monitor students' progress.	4.39	0.715	Competence is at a Very High Level
I can use assessment data to support students who need additional help.	4.32	0.748	Competence is at a Very High Level
I can develop rubrics appropriate for Science learning tasks.	4.29	0.739	Competence is at a Very High Level
I can ensure that my assessments are fair and suited to students' learning levels.	4.29	0.739	Competence is at a Very High Level
I can identify students' misconceptions through assessment activities.	4.23	0.717	Competence is at a Very High Level
I can use assessment results to improve my teaching strategies.	4.23	0.717	Competence is at a Very High Level
I can identify students' misconceptions through assessment activities.	4.00	0.730	Competence is at a High Level
Total	4.33	0.580	Competence is at a Very High Level

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Competence is at a very high level.
4	3.41-4.20	Agree (A)	Competence is at a high level.
3	2.61-3.40	No Opinion (NO)	Competence is at moderately Level
2	1.81-2.60	Disagree (D)	Competence is at a low level.
1	1.00-1.80	Strongly Disagree (SD)	Competence is at a very low level.

Next is table 5 which presents the results on teachers' competence in terms of assessment practices, which is also interpreted at a very high level with an overall mean of 4.33 (SD = 0.580). The highest mean (M = 4.65) was obtained in designing assessments aligned with MATATAG Science competencies, indicating strong alignment of assessment with curriculum standards. In contrast, the lowest mean (M = 4.00) was observed in identifying students' misconceptions through assessment activities, although still within the high competence level. The rest of the indicators fall within the very high competence range, reflecting teachers' strong ability in using varied assessment methods, monitoring progress, and utilizing assessment data to support student learning.

The findings suggest that teachers are highly competent in designing and implementing assessment strategies that are aligned with curriculum objectives and support student learning. Their ability to use varied assessment methods and formative assessments indicates a strong understanding of assessment as a tool for learning rather than merely evaluation. However, the relatively lower score in identifying students' misconceptions implies that teachers may face challenges in diagnosing deeper learning gaps and conceptual misunderstandings. This may be due to limited training in assessment analysis or the complexity of interpreting students' cognitive difficulties in science concepts.

The findings are supported by studies emphasizing the importance of effective assessment practices in improving teaching and learning outcomes. Decoito and Estaiteyeh (2022) found that teachers' assessment practices significantly influence instructional effectiveness, particularly when assessments are aligned with learning objectives and used to guide instruction. Similarly, Samson and Yango (2023) reported that teachers who effectively utilize formative assessments and varied evaluation methods are better able to enhance student engagement and learning outcomes. These findings support the present study, where teachers demonstrated very high competence in assessment alignment and varied assessment strategies.

Moreover, the results align with studies highlighting challenges in using assessment to identify deeper learning issues. Haji et al. (2025) found that while teachers demonstrate competence in general assessment practices, gaps remain in using assessment data for deeper analysis and instructional improvement. In addition, Supriyadi et al. (2025) emphasized that teachers often face difficulties in diagnosing students' conceptual misunderstandings, particularly in science education where abstract concepts require deeper analysis. This supports the present study's finding where identifying misconceptions obtained the lowest mean, suggesting that despite high overall competence, teachers may still need further support in diagnostic assessment practices.

Table 6. Summary of the Level of Skills and Competence

Variables	Mean	Standard Deviation	Interpretation
Pedagogical Competence	4.42	0.421	Competence is at a Very High Level
Curriculum Knowledge and Understanding	4.26	0.585	Competence is at a Very High Level
Instructional Delivery	4.18	0.519	Competence is at a High Level
Classroom Management	4.25	0.544	Competence is at a Very High Level
Assessment Practices	4.33	0.580	Competence is at a Very High Level
Overall Average	4.29	0.682	Competence is at a Very High Level

The data in Table 6 present a summary of teachers' competence across the five domains of implementation. Overall, teachers demonstrated a very high level of competence with a grand mean of 4.29 (SD = 0.682). Among the variables, pedagogical competence (M = 4.42) obtained the highest mean, followed by assessment practices (M = 4.33), curriculum knowledge and understanding (M = 4.26), and classroom management (M = 4.25), all

interpreted as very high competence. In contrast, instructional delivery ($M = 4.18$) obtained the lowest mean, although it is still interpreted at a high level. These results indicate that teachers consistently exhibit strong competence across most domains of MATATAG curriculum implementation.

The findings imply that teachers are generally well-prepared and capable of implementing the MATATAG Science curriculum, particularly in areas related to pedagogy, assessment, and curriculum understanding. However, the relatively lower rating in instructional delivery suggests that teachers may still need additional support in executing certain teaching practices, particularly those requiring more complex or resource-intensive approaches. This highlights the need for continuous professional development and institutional support to further strengthen teachers' instructional competencies, ensuring a more balanced and effective implementation of the curriculum across all domains.

Level of Challenges in Implementing MATATAG Curriculum

This section presents the results on the extent of challenges encountered by Science teachers in the early implementation of the MATATAG Science curriculum, focusing on key areas such as instructional materials and resources, classroom and learner management, workload and administrative support, and collaboration and stakeholder support.

Table 7 presents the extent of curriculum and instructional challenges encountered by Science teachers in implementing the MATATAG curriculum, with an overall mean of 3.47 ($SD = 0.850$), interpreted as challenges often affect implementation. The highest mean ($M = 4.13$) was observed in difficulty in interpreting MATATAG Science learning competencies during lesson planning, followed by difficulty aligning lesson objectives with curriculum standards ($M = 4.03$). In contrast, the lowest mean ($M = 2.71$) was recorded in ensuring that students achieve the intended learning outcomes, interpreted as challenges moderately affect implementation. The remaining indicators fall within the moderate to often range, indicating that teachers experience noticeable challenges across several aspects of curriculum and instructional practices.

Table 7. Curriculum and Instructional Challenges in Implementing MATATAG Curriculum

Indicators	Mean	Standard Deviation	Interpretation
I find it difficult to interpret the MATATAG Science learning competencies during lesson planning.	4.13	1.118	Challenges Often Affect Implementation
I experience difficulty aligning lesson objectives with MATATAG Science standards.	4.03	0.875	Challenges Often Affect Implementation
I find it challenging to contextualize Science lessons based on learners' needs.	3.84	1.003	Challenges Often Affect Implementation
I have difficulty simplifying complex Science concepts to fit MATATAG curriculum expectations.	3.84	1.186	Challenges Often Affect Implementation
I find it challenging to adjust my teaching strategies to meet MATATAG requirements.	3.42	1.119	Challenges Often Affect Implementation
I experience difficulty integrating learner-centered strategies in Science lessons.	3.39	1.174	Challenges Moderately Affect Implementation
I find it difficult to address varied learner abilities during Science instruction.	3.32	1.107	Challenges Moderately Affect Implementation
I experience difficulty in managing the pacing of Science lessons under MATATAG.	3.16	1.440	Challenges Moderately Affect Implementation
I find it challenging to develop learning activities that align with MATATAG competencies.	2.90	1.399	Challenges Moderately Affect Implementation
I experience difficulty ensuring that students achieve the intended Science learning outcomes.	2.71	1.488	Challenges Moderately Affect Implementation
Total	3.47	0.850	Challenges Often Affect Implementation

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Challenges greatly affect implementation.
4	3.41-4.20	Agree (A)	Challenges often affect implementation.
3	2.61-3.40	No Opinion (NO)	Challenges moderately affect implementation.
2	1.81-2.60	Disagree (D)	Challenges have minimal effect.
1	1.00-1.80	Strongly Disagree (SD)	Challenges have very little effect.

The findings suggest that teachers commonly encounter difficulties related to understanding and applying the new curriculum, particularly in interpreting competencies and aligning lesson objectives. These challenges highlight the complexity of transitioning to a new curriculum framework such as MATATAG, where teachers must adjust both their planning and instructional approaches. While some aspects, such as ensuring learning outcomes, are less problematic, the moderate to high levels of difficulty across most indicators indicate that teachers are still adapting to the demands of the curriculum, especially in terms of instructional alignment and contextualization.

The findings are supported by studies highlighting the challenges teachers face in implementing new curricula. Maraveles and Ducot (2025) found that teachers commonly struggle with familiarization of new competencies and aligning instruction with curriculum requirements, which can lead to difficulties in lesson planning and delivery. Similarly, Montero and Ducot (2025) reported that curriculum adaptation and alignment are among the most significant challenges faced by teachers during the early implementation of the MATATAG curriculum. These findings are consistent with the present study, where interpreting competencies and aligning objectives were identified as major challenges.

Furthermore, the results align with international studies emphasizing broader instructional challenges in curriculum implementation. Stevenson et al. (2025) found that teachers face difficulties in implementing inquiry-based and student-centered approaches due to unclear curriculum guidelines, limited time, and insufficient resources. In addition, Nasution and Indrasari (2024) reported that teachers often struggle with applying new teaching strategies and developing aligned learning materials during curriculum transitions. These studies support the present findings, suggesting that challenges in curriculum interpretation and instructional alignment are common during the early stages of implementing new educational reforms.

Table 8 on the other hand, presents the extent of classroom and learner management challenges encountered by Science teachers in implementing the MATATAG curriculum, with an overall mean of 3.75 (SD = 0.905), interpreted as challenges often affect implementation. The highest mean (M = 4.29) was observed in large class size making it difficult to effectively implement the curriculum, indicating that this is the most significant challenge experienced by teachers. This is followed by managing student behavior during Science lessons (M = 4.00) and maintaining student engagement (M = 3.97). On the other hand, the lowest mean (M = 3.06) was recorded in maintaining a conducive learning environment, interpreted as challenges moderately affect implementation. Most indicators fall within the “often affect implementation” range, suggesting that classroom-related factors consistently influence teaching effectiveness.

The findings indicate that classroom conditions, particularly large class size, significantly affect teachers’ ability to implement the MATATAG curriculum effectively. Managing student behavior, sustaining engagement, and facilitating hands-on activities are also notable challenges, which are essential components of effective science instruction. These results suggest that while teachers are competent, external classroom factors limit their ability to fully deliver instruction as intended. The presence of moderate challenges in maintaining a conducive environment and classroom space further highlights structural and environmental constraints affecting teaching and learning.

These results imply that classroom and learner-related challenges are critical barriers to effective curriculum implementation. Large class sizes and behavioral management issues can reduce opportunities for individualized instruction, active engagement, and meaningful learning experiences. Addressing these challenges requires institutional support, such as reducing class size, improving classroom facilities, and providing teachers with

effective classroom management strategies. Strengthening these areas can enhance the overall quality of teaching and ensure better learning outcomes under the MATATAG curriculum.

Table 8. Classroom Management Challenges in Implementing MATATAG Curriculum

Indicators	Mean	Standard Deviation	Interpretation
Large class size makes it difficult to effectively implement the MATATAG Science curriculum.	4.29	0.864	Challenges Greatly Affect Implementation
Managing student behavior during Science lessons is challenging.	4.00	1.342	Challenges Often Affect Implementation
Maintaining student engagement during Science activities is difficult.	3.97	0.836	Challenges Often Affect Implementation
Limited class time affects my ability to complete Science learning activities.	3.97	1.080	Challenges Often Affect Implementation
I find it difficult to manage hands-on Science activities effectively.	3.97	1.278	Challenges Often Affect Implementation
Classroom disruptions affect the delivery of Science lessons.	3.90	0.978	Challenges Often Affect Implementation
I experience difficulty managing group activities in Science classes.	3.61	1.116	Challenges Often Affect Implementation
I find it challenging to monitor students' participation during Science lessons.	3.52	1.151	Challenges Often Affect Implementation
Limited classroom space affects Science learning activities.	3.16	1.508	Challenges Moderately Affect Implementation
I find it difficult to maintain a conducive learning environment during Science instruction.	3.06	1.389	Challenges Moderately Affect Implementation
Total	3.75	0.905	Challenges Often Affect Implementation

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Challenges greatly affect implementation.
4	3.41-4.20	Agree (A)	Challenges often affect implementation.
3	2.61-3.40	No Opinion (NO)	Challenges moderately affect implementation.
2	1.81-2.60	Disagree (D)	Challenges have minimal effect.
1	1.00-1.80	Strongly Disagree (SD)	Challenges have very little effect.

The findings are supported by studies emphasizing the impact of classroom conditions on teaching effectiveness. Lutsenko and Seminkhyna (2023) found that large class sizes limit teachers' ability to provide individualized attention, manage classroom dynamics, and sustain student engagement, which negatively affects instructional quality. Similarly, Marchan et al. (2025) reported that overcrowded classrooms and diverse learner needs pose significant challenges in managing instruction and addressing student differences. These findings support the present study, where large class size emerged as the most significant challenge.

Furthermore, the results align with studies highlighting behavioral and instructional challenges in classroom settings. Ndikumana et al. (2024) found that large class sizes, limited facilities, and time constraints hinder effective teaching and learning, particularly in science-related subjects. In addition, Amilusholihah et al. (2025) reported that classroom management challenges, including monitoring student participation and managing behavior, are intensified by large class sizes and limited resources. These findings are consistent with the present study, suggesting that classroom-related constraints are common barriers that affect effective curriculum implementation.

Following the classroom and learner management challenges identified in the previous table, Table 9 presents the extent of training and professional support challenges encountered by Science teachers in implementing the MATATAG curriculum. The overall mean of 3.01 (SD = 1.045) indicates that these challenges moderately affect implementation. The highest mean (M = 3.52) was observed in needing more training on the proper implementation of the MATATAG Science curriculum, suggesting that teachers perceive a strong need for additional capacity-building. In contrast, the lowest mean (M = 2.84) was found in needing more access to professional resources and materials, although still interpreted as a moderate challenge. Most indicators fall within the moderate range, reflecting that while support systems exist, they may not be sufficient to fully address teachers' needs.

Table 9. Training and Professional Support Challenges in Implementing MATATAG Curriculum

Indicators	Mean	Standard Deviation	Interpretation
I need more training on the proper implementation of the MATATAG Science curriculum.	3.52	1.151	Challenges Often Affect Implementation
The training provided is not enough to address actual classroom challenges.	3.16	1.508	Challenges Moderately Affect Implementation
I need more support in understanding MATATAG Science competencies.	3.06	1.389	Challenges Moderately Affect Implementation
I need more training in designing assessments aligned with MATATAG.	2.97	1.110	Challenges Moderately Affect Implementation
I need more guidance in using learner-centered Science teaching strategies.	2.97	1.110	Challenges Moderately Affect Implementation
I receive limited support from school administrators regarding MATATAG implementation.	2.94	1.063	Challenges Moderately Affect Implementation
I need more mentoring or coaching support after curriculum trainings.	2.90	1.012	Challenges Moderately Affect Implementation
Learning Action Cell (LAC) sessions are not enough to address implementation issues.	2.87	1.204	Challenges Moderately Affect Implementation
Opportunities for collaboration with colleagues regarding MATATAG are limited.	2.87	1.204	Challenges Moderately Affect Implementation
I need more access to professional resources and materials to support implementation.	2.84	1.186	Challenges Moderately Affect Implementation
Total	3.01	1.045	Challenges Moderately Affect Implementation

Legend:

Score	Mean Range	Description	Interpretation
5	4.21-5.0	Strongly Agree (SA)	Challenges greatly affect implementation.
4	3.41-4.20	Agree (A)	Challenges often affect implementation.
3	2.61-3.40	No Opinion (NO)	Challenges moderately affect implementation.
2	1.81-2.60	Disagree (D)	Challenges have minimal effect.
1	1.00-1.80	Strongly Disagree (SD)	Challenges have very little effect.

The findings suggest that although teachers demonstrate competence in curriculum implementation, gaps remain in professional development and institutional support. The need for more training, guidance in learner-centered strategies, and support in assessment design indicates that teachers are still adjusting to the demands of the MATATAG curriculum. Additionally, limited collaboration opportunities, insufficient mentoring, and inadequate administrative support further contribute to these challenges. Compared to previous findings on

classroom challenges, these results highlight that not only environmental factors but also systemic support structures influence effective implementation.

These results imply that strengthening professional development programs is essential for sustaining effective curriculum implementation. Continuous, targeted, and context-specific training can enhance teachers' understanding of curriculum standards and improve their instructional practices. Moreover, increasing administrative support, mentoring systems, and collaborative opportunities such as Learning Action Cell (LAC) sessions can help teachers address implementation difficulties more effectively. Addressing these support-related gaps is critical to ensuring that teachers are not only competent but also adequately supported in delivering the MATATAG curriculum.

The findings are supported by studies emphasizing the importance of continuous professional development in improving teaching practices. Jeptepkeny and Keter (2025) found that structured training and ongoing professional development significantly enhance teachers' instructional competence, but challenges such as limited access to training and resources hinder effective implementation. Similarly, Capacio et al. (2021) reported that teachers experience difficulties adapting to new teaching demands due to insufficient training, lack of resources, and limited institutional support. These findings support the present study, where teachers expressed the need for more training and support mechanisms.

Furthermore, the results align with studies highlighting the role of collaboration and mentoring in effective curriculum implementation. Akhmetova et al. (2023) found that teachers face challenges in applying new instructional approaches due to insufficient training, heavy workload, and lack of collaboration opportunities. In addition, Ndikumana et al. (2024) emphasized that limited institutional support, inadequate facilities, and weak coordination among stakeholders hinder effective teaching and curriculum implementation. These findings are consistent with the present study, indicating that strengthening professional support systems is essential to address implementation challenges.

The data in Table 10 present a summary of the challenges encountered by Science teachers in implementing the MATATAG curriculum. The overall mean of 3.42 (SD = 1.264) indicates that challenges often affect implementation. Among the variables, classroom management challenges (M = 3.75) obtained the highest mean, followed by curriculum and instructional challenges (M = 3.47), both interpreted as challenges that often affect implementation. In contrast, training and professional support challenges (M = 3.01) obtained the lowest mean, although still interpreted as challenges that moderately affect implementation. These results show that teachers experience varying levels of difficulty across different aspects of curriculum implementation.

Table 10. Summary of the Level of Challenges

Variables	Mean	Standard Deviation	Interpretation
Curriculum and Instructional	3.47	0.850	Challenges Often Affect Implementation
Classroom Management	3.75	0.905	Challenges Often Affect Implementation
Training and Professional Support	3.01	1.045	Challenges Moderately Affect Implementation
Overall Average	3.42	1.264	Challenges Often Affect Implementation

The findings imply that classroom-related factors are the most significant barriers affecting effective implementation of the MATATAG curriculum, particularly issues related to class size, student behavior, and engagement. Curriculum-related challenges also remain prominent, especially in interpreting competencies and aligning instruction. While training and professional support challenges are relatively lower, they still indicate a need for continuous professional development and institutional support. Overall, the results highlight that both instructional and environmental factors influence curriculum implementation, emphasizing the importance of

strengthening support systems, improving classroom conditions, and enhancing teacher capacity to ensure successful implementation.

Test of Significance between Teachers’ Level of Skills and Competence and Level of Challenges

Table 11 shows the test of relationship between teachers’ competence and implementation challenges across different domains. The results reveal that pedagogical competence has a strong negative and significant relationship with curriculum and instructional challenges ($r = -0.657$), classroom management challenges ($r = -0.732$), and training and professional support challenges ($r = -0.753$), all significant at $p < 0.01$. Similarly, curriculum knowledge and understanding also shows a moderate negative significant relationship with all challenge domains ($r = -0.510, -0.610, -0.561$). In contrast, instructional delivery shows no significant relationship with curriculum and classroom challenges but has a weak positive significant relationship with training and professional support challenges ($r = 0.376$). Meanwhile, classroom management competence shows no significant relationship across all challenge domains, and assessment practices only show a significant negative relationship with curriculum challenges ($r = -0.474$). Overall, the relationship between competence and challenges is not significant ($r = -0.195, p = 0.062$).

Table 11. Test of Relationship between Teachers’ Level of Skills and Competence and Level of Challenges

Skills and Competence	Challenges	Curriculum and Instructional	Classroom Management	Training and Professional Support
Pedagogical Competence	Pearson Correlation	-0.657(**)	-0.732(**)	-0.753(**)
	Sig. (2-tailed)	.000	.000	.000
	Remarks	Significant	Significant	Significant
Curriculum Knowledge and Understanding	Pearson Correlation	-0.510(**)	-0.610(**)	-0.561(**)
	Sig. (2-tailed)	.003	.000	.001
	Remarks	Significant	Significant	Significant
Instructional Delivery	Pearson Correlation	-.110	.249	.376(*)
	Sig. (2-tailed)	.557	.177	.037
	Remarks	Not Significant	Not Significant	Significant
Classroom Management	Pearson Correlation	-.251	.023	-.100
	Sig. (2-tailed)	.173	.902	.594
	Remarks	Not Significant	Not Significant	Not Significant
Assessment Practices	Pearson Correlation	-0.474(**)	-.193	-.287
	Sig. (2-tailed)	.007	.299	.117
	Remarks	Significant	Not Significant	Not Significant
OVERALL	Pearson Correlation		-.195	
	Sig. (2-tailed)		.062	
	Remarks		Not Significant	

*Correlation is significant at 0.05 level (two-tailed)

**Correlation is significant at 0.01 level (two-tailed)

The findings indicate that higher levels of pedagogical competence and curriculum knowledge are associated with lower levels of perceived challenges, particularly in curriculum implementation and classroom

management. This suggests that teachers who are more competent in pedagogy and curriculum understanding are better able to navigate the demands of the MATATAG curriculum. However, the lack of significant relationships in instructional delivery and classroom management implies that these competencies may be influenced more by external factors such as classroom conditions, resources, and institutional support rather than teacher capability alone.

This implies that while teacher competence plays an important role in reducing implementation challenges, it is not the sole determinant of successful curriculum implementation. The non-significant overall relationship suggests that challenges such as large class size, workload, and limited support systems may persist regardless of teachers' competence levels. This highlights the need for a more comprehensive approach that combines strengthening teacher competence with improving systemic and environmental conditions to ensure effective implementation of the MATATAG curriculum.

The findings are supported by studies emphasizing the relationship between teacher competence and implementation challenges. Borreo (2023) found a moderate correlation between teacher competence and challenges, indicating that higher competence can help reduce difficulties encountered in educational tasks. Similarly, Dandanon (2025) reported that teacher competence significantly relates to effective curriculum implementation, particularly in areas such as instructional planning, content delivery, and assessment. These findings support the present study, where competence, especially pedagogical and curriculum-related, shows significant relationships with challenges.

However, some studies also suggest that competence alone is not sufficient to overcome implementation barriers. Elardo (2025) found that despite teachers being moderately prepared, significant challenges such as lack of resources, large class sizes, and insufficient training still affect curriculum implementation. Similarly, Prado and Asparin (2025) reported that while teachers may have positive perceptions and adequate competence, operational barriers such as workload, support limitations, and resource constraints significantly influence implementation outcomes. This explains the present study's finding of a non-significant overall relationship, suggesting that external factors play a crucial role alongside teacher competence.

Coping Mechanisms of Teachers on the Implementation Challenges

The analysis of teachers' coping mechanisms in implementing the MATATAG Science curriculum revealed four major themes that characterize how educators respond to the demands and challenges of curriculum implementation. These include instructional adaptation and learner-centered strategies, collaboration and professional support systems, resourcefulness and innovation in instructional materials, and personal resilience and adaptive mindset, which collectively illustrate the multifaceted approaches teachers employ to sustain effective teaching practices.

Theme 1: Instructional Adaptation and Learner-Centered Strategies

This theme highlights how teachers cope with the challenges of implementing the MATATAG Science curriculum by adjusting their instructional approaches and adopting learner-centered strategies. The responses indicate that teachers actively modify their teaching methods, pacing, and strategies to meet curriculum demands and address diverse learner needs. This reflects a shift from traditional teaching to more flexible, adaptive, and student-focused instructional practices.

One key coping mechanism observed is the adaptation of teaching methods and pacing. This is supported by the following statements:

'P1: In implementing the curriculum, the teachers should adapt to the new method, giving importance to content and pacing of the lesson, as what I'm doing';

'P2: I adapted teaching methods, available resources, just did pacing.';

'P3: The adjustment and strategies I use... included searching for new strategies that cater to learners with different learning styles.'; and

'P4: I have adopted the curriculum to accommodate changing students' needs.'

These responses show that teachers respond to curriculum demands by becoming flexible in their instructional planning and delivery.

Another strategy involves the use of differentiated and interactive approaches to address learner diversity. This is supported by the following statements:

'P2: I incorporated interactive activities, differentiated instruction, and flexible pacing.'

'P4: I used differentiated instruction to catch the diverse learning needs and abilities of students.'

'P5: Guided discovery learning, inquiry-based learning, reflective learning, experiential learning.'; and

'P6: Inquiry-based, discovery-based, and project-based methods.'

These responses demonstrate that teachers intentionally use varied instructional strategies to ensure inclusivity and engagement among learners with different abilities and learning styles.

Additionally, teachers cope through the use of student-centered and inquiry-based approaches. This is supported by the following statements:

'P1: More engaging activity for students (student-centered).';

'P3: Game-based strategies is one of my teaching technique.';

'P6: Hands-on activities (student-centered strategy).'; and

'P6: Shifting from traditional lecturing to the 5E instructional model.'

These responses highlight the shift toward active learning, where students are encouraged to participate, explore, and construct knowledge through meaningful learning experiences.

These findings indicate that teachers cope with implementation challenges by becoming more adaptive, flexible, and innovative in their instructional practices. The consistent use of differentiated, inquiry-based, and student-centered approaches suggests that teachers are aligning their practices with the goals of the MATATAG curriculum. This adaptability allows them to address diverse learner needs, maintain engagement, and improve learning outcomes despite existing challenges. It also reflects teachers' willingness to continuously improve their practices in response to curriculum changes.

These findings are supported by existing studies emphasizing the effectiveness of adaptive and learner-centered instructional strategies. Alvizo (2025) found that teachers who implement learner-centered approaches such as collaborative learning, inquiry-based tasks, and differentiated instruction significantly enhance student motivation, engagement, and critical thinking. Similarly, Toledo (2023) reported that differentiated instruction improves students' academic performance in science by addressing individual learning needs and promoting active participation. These findings support the present study, where teachers actively employ differentiated and interactive strategies as coping mechanisms.

Moreover, the results align with studies highlighting the importance of inquiry-based and student-centered approaches in science education. Santos (2025) emphasized that student-centered learning enhances engagement, self-regulation, and deeper understanding, although it requires strong teacher facilitation and adaptability. Likewise, Sayadi and Pangandaman (2025) found that inquiry-based and technology-enhanced strategies significantly improve students' conceptual understanding and scientific literacy when effectively implemented. These findings further support the present results, suggesting that teachers' adaptive and learner-centered practices are essential coping strategies that contribute to effective curriculum implementation.

Theme 2: Collaboration and Professional Support Systems

Teachers' responses reveal that collaboration and access to professional support play a crucial role in coping with the challenges of implementing the MATATAG Science curriculum. Through shared experiences, collective problem-solving, and participation in professional development activities, teachers are able to strengthen their instructional practices and navigate the demands of curriculum change more effectively.

One important coping strategy is peer collaboration and sharing of practices. This is supported by the following statements:

- 'P1: Collaboration with other teachers leads to sharing of experiences and strategies.';*
'P2: Sharing strategies and resources made implementation easier.';
'P3: I collaborated with colleagues to share best practices.'; and
'P3: Collaborating with teachers ... helped me to overcome the challenges.'

These responses highlight that teachers benefit from exchanging ideas, strategies, and resources, which helps them address challenges more effectively and improve their instructional practices.

Another coping mechanism is the presence of collegial support and teamwork among teachers. This is supported by the following statements:

- 'P3: My colleague serve as my support system that help me to overcome the challenges.';*
'P4: Colleagues also shared lesson plans, activities and other resources.';
'P5: Fostering a shared understanding... enables teachers to brainstorm and implement solutions together.'; and
'P6: Collaborative learning.'

These responses indicate that teachers rely on teamwork and mutual support to navigate the complexities of curriculum implementation, reinforcing a sense of shared responsibility and collective problem-solving.

In addition, teachers cope through training and professional development support. This is supported by the following statements:

- 'P1: External support such as teachers' training could help develop knowledge and skills.';*
'P2: Provided hands-on training, resource development and continuous support.'; and
'P4: Teachers with specialized knowledge shared their expertise.'

These responses suggest that professional development activities and access to expert knowledge play a significant role in enhancing teachers' capacity to implement the curriculum effectively.

These findings indicate that collaboration and professional support systems are essential coping mechanisms that enable teachers to address the challenges of MATATAG curriculum implementation. Through peer interaction, shared resources, and continuous professional learning, teachers are able to strengthen their instructional practices and adapt to new curriculum demands. This highlights that effective curriculum implementation is not solely an individual effort but a collective process supported by a strong professional community.

These findings are supported by studies emphasizing the role of collaboration in improving teaching practices. McKie (2024) found that sustained collaboration among teachers significantly contributes to long-term improvements in instructional practices, particularly when collaboration focuses on pedagogy and content knowledge. Similarly, Zhao (2024) reported that collaborative learning among teachers enhances professional growth, confidence, and the adoption of innovative teaching strategies. These findings support the present study, where collaboration is identified as a key coping mechanism.

Moreover, the results align with studies highlighting the importance of professional development and support systems in teaching effectiveness. Jeptepkeny and Keter (2025) found that continuous professional development and mentoring significantly improve teachers' instructional competence and ability to implement learner-centered strategies. Additionally, Zhang et al. (2025) reported that collaborative environments and peer support positively influence teacher engagement and learning outcomes. These findings further support the present results, indicating that collaboration and professional support are essential in overcoming implementation challenges.

Theme 3: Resourcefulness and Innovation

Teachers' responses highlight that coping with the challenges of the MATATAG Science curriculum also involves being resourceful and innovative in the use of instructional materials. By maximizing available resources, integrating technology, and contextualizing learning materials, teachers are able to sustain effective instruction despite limitations in facilities and materials. These practices reflect teachers' creativity and adaptability in addressing gaps in resources and enhancing student learning experiences.

One evident strategy is the use of ICT and digital tools to support instruction. This is supported by the following statements:

'P1: Modifications include improved use of ICT.'

'P6: Video recorded lessons aligned with MATATAG Curriculum Competencies.'; and

'P6: Game-based learning approach accessible both online and offline.'

These responses indicate that teachers utilize digital platforms and tools to enhance lesson delivery, increase engagement, and provide alternative learning opportunities for students.

Another coping approach involves improvisation and maximization of available resources. This is supported by the following statements:

'P2: I adapted teaching methods using available resources.'

'P4: Shared resources reduced preparation time and enhanced instruction.'; and

'P6: Teachers utilize improvisation with indigenous materials and digital simulations.'

These responses show that teachers creatively use existing materials and collaborate in sharing resources to address shortages and improve instructional efficiency.

In addition, teachers demonstrate resourcefulness through the use of contextualized and practical materials. This is supported by the following statement:

'P6: Lessons are rooted in local community issues to make science more tangible.'

This reflects the effort of teachers to make learning more meaningful and relevant by connecting scientific concepts to real-life contexts, thereby enhancing students' understanding and engagement.

The findings indicate that resourcefulness and innovation play a critical role in helping teachers overcome limitations in instructional materials and resources. By integrating ICT, improvising materials, and contextualizing lessons, teachers are able to maintain effective teaching practices and support student learning. These strategies demonstrate that teachers are not only dependent on available resources but are also capable of creating meaningful learning experiences through innovation and adaptability.

These findings are supported by studies emphasizing the role of ICT in improving teaching effectiveness and student engagement. Seleke (2024) found that ICT integration enhances student-centered learning by increasing engagement, participation, and access to learning resources, although challenges such as infrastructure and digital literacy remain. Similarly, Sutacio and Ubayubay (2025) reported that teachers with high ICT proficiency demonstrate better teaching quality, as digital tools support effective lesson delivery and instructional strategies. These findings support the present study, where ICT use is a key coping mechanism.

Moreover, the results align with studies highlighting the importance of innovation and resourcefulness in teaching. Romero-García et al. (2024) emphasized that the use of innovative teaching materials and contextualized approaches enhances students' understanding and promotes meaningful learning. In addition, Abbasi et al. (2025) found that teachers who effectively utilize digital tools and available resources improve instructional effectiveness and professional competencies, although challenges such as limited training and resources persist. These findings further support the present study, indicating that resourcefulness and innovation are essential coping strategies in addressing instructional challenges.

Theme 4: Personal Resilience and Adaptive Mindset

Teachers' responses demonstrate that coping with the challenges of implementing the MATATAG Science curriculum is not only dependent on instructional and external support mechanisms but also on internal factors such as resilience, mindset, and personal adaptability. The ability to maintain a positive outlook, remain open to learning, and engage in reflective practices enables teachers to manage stress and sustain effective teaching despite the demands of curriculum change.

One coping mechanism evident among teachers is the demonstration of a positive attitude and persistence in addressing challenges. This is supported by the following statements:

'P5: Make a plan, not alone, ask for help, positive mindset, don't give up.';

'P1: As I adjust with the teaching method, learners also are adapting.'; and

'P3: The solutions are effective as it increases student engagement and results.'

These responses indicate that teachers maintain optimism and perseverance, allowing them to continue improving their practices even in the face of difficulties.

Another important coping strategy is openness to learning and continuous improvement. This is supported by the following statements:

'P3: Searching for new strategies to address difficulties.';

'P5: Accept suggestions, help others, and work smart not hard.'; and

'P6: Continuous formative assessment to improve learning.'

These responses show that teachers are willing to learn from experiences, seek feedback, and refine their practices, which contributes to their professional growth and effectiveness.

Additionally, teachers exhibit coping through goal-oriented and reflective practices. This is supported by the following statements:

'P5'P5: Adopt the strategy of formative curriculum evaluation.'; and

'P6: Focus on deep mastery rather than broad coverage.'

These responses highlight that teachers engage in reflective thinking and prioritize meaningful learning outcomes, enabling them to align their teaching strategies with curriculum goals.

The findings indicate that personal resilience and an adaptive mindset are essential in helping teachers cope with the challenges of curriculum implementation. Teachers who demonstrate positivity, openness to learning, and reflective practices are better equipped to handle stress, adapt to change, and sustain effective teaching. These internal coping mechanisms complement external supports and instructional strategies, forming a holistic approach to overcoming implementation challenges.

These findings are supported by studies emphasizing the importance of resilience in teaching. Al-Jarf (2024) explained that teacher resilience, characterized by adaptability, positive mindset, and goal-setting, enables educators to cope with stress and maintain effectiveness in their professional roles. Similarly, Chen et al. (2022) found that resilience is strongly associated with adaptability, flexibility, and positive mindset, which help teachers thrive despite teaching-related stress. These findings support the present study, where resilience-related behaviors are evident in teachers' coping mechanisms.

Moreover, the results align with studies highlighting the role of coping strategies and mindset in teacher effectiveness and well-being. Sanchez and Mananquil (2023) found that teachers with strong coping mechanisms demonstrate higher resilience and are better able to manage stress and classroom demands. In addition, Salvo-Garrido et al. (2025) emphasized that resilience, supported by self-awareness, optimism, and support systems, positively influences teaching performance and student outcomes. These findings further support the results, indicating that personal resilience and adaptive mindset are critical components of effective coping in curriculum implementation.

CONCLUSIONS

The findings revealed that teachers demonstrated a very high level of competence in implementing the MATATAG Science curriculum across most domains, particularly in pedagogical competence and assessment practices. However, instructional delivery showed a relatively lower level, indicating that while teachers are generally well-prepared, there remain areas that require further enhancement, especially in implementing more complex and resource-dependent teaching strategies.

The results indicated that teachers experienced challenges that often affected implementation, with classroom management challenges emerging as the most significant, followed by curriculum and instructional challenges. Training and professional support challenges were less pronounced but still present, suggesting that both environmental and systemic factors continue to influence the effectiveness of curriculum implementation.

The study found that although certain domains of competence, particularly pedagogical competence and curriculum knowledge, showed significant relationships with specific challenges, the overall relationship between teachers' competence and challenges was not significant. This implies that while competence helps mitigate some difficulties, external factors such as classroom conditions, workload, and support systems play a more substantial role in shaping implementation challenges.

The findings revealed that teachers employed diverse coping mechanisms, including instructional adaptation, collaboration, resourcefulness, and personal resilience, to address implementation challenges. These strategies demonstrate that teachers are capable of adapting to curriculum demands; however, their coping efforts also highlight the need for stronger institutional support to sustain effective and consistent implementation of the MATATAG Science curriculum.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proposed:

The school leaders may strengthen training and professional support systems by offering more targeted, sustained, and practical training programs aligned with the MATATAG curriculum. Mentoring programs, Learning Action Cell (LAC) sessions, and collaborative platforms may be enhanced to provide teachers with continuous guidance, especially in curriculum interpretation and instructional alignment.

School administrators and education stakeholders may address the classroom and learner management challenges, especially issues related to large class sizes and student engagement, by providing adequate classroom resources, improving learning environments, and implementing policies that support manageable class sizes. Providing training focused on classroom management strategies may also help teachers better handle diverse learners and behavioral concerns.

Teachers may continue to strengthen their already high level of competence by engaging in continuous professional development, particularly in areas of instructional delivery such as conducting laboratory activities, simulations, and inquiry-based learning. Enhancing these skills may further improve the quality of science instruction and ensure more effective implementation of the MATATAG curriculum. They may continue utilizing and further develop their coping mechanisms, such as collaboration, instructional adaptation, and resourcefulness. Schools may encourage a culture of collaboration and peer support to sustain these practices, as they have been shown to help teachers manage curriculum demands effectively.

Given that competence alone does not fully eliminate challenges, policymakers may focus on improving systemic and institutional support, including resource allocation, workload management, and access to instructional materials. Addressing these external factors may significantly reduce the challenges experienced by teachers and support more effective curriculum implementation.

Future researchers may conduct similar studies in different contexts or include a larger sample size to validate and expand the findings of this study. Further research may also explore additional variables, such as student

outcomes or administrative support systems, to provide a more comprehensive understanding of MATATAG curriculum implementation.

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