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TEACHERS' COMPETENCE AND LEARNERS' MATHEMATICS PERFORMANCE

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Abstract

This study examined teachers' competence and its relation to learners' mathematics performance to inform the development of instructional materials. Focusing on content knowledge, teaching strategies, and assessment of learning, the study also explored differences across age, highest educational attainment, and length of service, as well as the relationship with learners' performance during the first and second quarters of School Year 2021–2022. Using a descriptive design, all 31 mathematics teachers from District 10, Northern Negros Occidental, participated. Data were collected through a validated researcher-made questionnaire (Cronbach's $\alpha = 0.814$) and learners' progress reports. Results showed high teacher competence in content knowledge ($M = 3.93$), teaching strategies ($M = 3.80$), and assessment of learning ($M = 4.04$). Assessment of learning varied significantly by Educational Attainment ($p = 0.001$), while other competencies showed no demographic differences. Learners' mathematics performance was very satisfactory (overall $M = 86.96$), and correlation analysis indicated a positive but non-significant relationship between teacher competence and learners' performance ($r = 0.081$, $p = 0.664$). The findings underscore the need for targeted instructional materials to further enhance teaching effectiveness and mathematics achievement.

Keywords**:** *Teacher competence, content knowledge, teaching strategies, assessment of learning, mathematics performance, instructional materials*

Bio-profiles

Criste Jean S. Templado earned her Bachelor's degree in Secondary major in Mathematics from Philippine Normal University-Visayas and her Master of Arts in Education major in Early Childhood Education at STI West Negros University, INC. She is currently working as a teacher and Math Club Adviser at Dr. Vicente F. Gustilo Memorial National High School. Ms. Templado was engaged in implementing various innovations to enhance learners' numeracy, which led her to pursue this research.

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Introduction

Rationale

Teacher competence is a multidimensional construct that extends beyond mastery of subject matter to encompass pedagogical skills, assessment literacy, and the capacity to facilitate meaningful learning experiences. In mathematics education, pedagogical content knowledge (PCK) is recognized as a crucial determinant of effective teaching. Teachers with strong PCK not only understand mathematical concepts but also know how to present them in ways that address learners' misconceptions and promote deeper understanding (Depaepe et al., 2025). Research has shown that students taught by teachers with high PCK tend to perform better academically and demonstrate greater engagement in mathematics learning (Llego & Ballena, 2023; Solaiman et al., 2022).

Assessment literacy, another core dimension of teacher competence, plays a vital role in shaping learners' outcomes. Teachers who effectively design and implement formative and summative assessments can monitor student progress, provide constructive feedback, and adjust instructional strategies to meet diverse learning needs (Fisher et al., 2021; Altun & Karakoç, 2024). In the Philippine context, the Department of Education (DepEd) underscores the importance of teacher competence in assessment through DepEd Order No. 031, s. 2020, which encourages flexibility, validity, and alignment with the Most Essential Learning Competencies (MELCs), particularly in modular and distance learning modalities.

Despite the recognized importance of these competencies, challenges remain in how teachers translate content knowledge, pedagogical strategies, and assessment practices into actual classroom practice. Some educators may struggle to adapt instructional strategies, create valid assessments, or address the needs of diverse learners. Moreover, most prior studies focus separately on teacher competence or learner performance, offering limited insight into the interplay between these dimensions in Philippine public schools. This study seeks to fill this gap by examining how teachers' competence in content knowledge, teaching strategies, and assessment of learning relates to learners' mathematics performance. The findings aim to provide evidence-based guidance for professional development, instructional planning, and the creation of targeted teaching materials to enhance mathematics achievement.

Literature Review

Teacher competence is widely recognized as a key determinant of learners' mathematics performance. It encompasses not only content knowledge but also pedagogical skills, assessment literacy, and the ability to facilitate meaningful learning experiences (Tkachenko et al., 2023; Bayo Jr. & Doronio, 2022; Robert Lee, 2024). In mathematics education, teachers with strong pedagogical content knowledge (PCK), who integrate content mastery and instructional strategies, are better able to address misconceptions, promote conceptual understanding, and foster student engagement (Grigaliūnienė et al., 2025; Silvosa & Salimaco, 2025; Llego & Ballena, 2023). Professional development that targets both content and pedagogy further enhances instructional quality and student outcomes (Franklin & Chang, 2022).

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Assessment literacy is another critical dimension of teacher competence. Effective use of formative and summative assessments provides feedback, guides instruction, and supports learners' conceptual development (Fisher et al., 2021; Mertasari et al., 2023). Studies have shown that students of teachers who integrate content knowledge, pedagogical strategies, and purposeful assessments demonstrate higher achievement, greater problem-solving ability, and positive attitudes toward mathematics (Ardiansyah, 2022; Cahyono, 2024; Reyes & Cruz, 2024; Pangan & Magno, 2025). Learners' mathematics performance is multidimensional, involving conceptual understanding, procedural fluency, reasoning, problem-solving, modelling, and disposition (Johanson et al., 2023; Adeleke & Balogun, 2025). Factors influencing performance include instructional quality, teacher preparedness, learner engagement, classroom environment, and learner characteristics such as study orientation and learning style (Maamin et al., 2021; Macapayad, 2025; Cabaces, 2024). Local studies also highlight systemic challenges such as inadequate teacher mastery, high student–teacher ratios, and resource constraints, which can affect both teaching quality and learner outcomes (Refugio et al., 2020; Temelo, 2023; Ranario & Hinacay, 2025).

Overall, research indicates that competent teachers who combine deep content knowledge, effective teaching strategies, and assessment literacy create environments that enhance learners' understanding, motivation, and achievement in mathematics. Structured instructional approaches, such as Concrete–Pictorial–Abstract (CPA), differentiated instruction, inquiry-based learning, and performance-based assessments, consistently improve mathematics performance by promoting conceptual understanding, problem-solving skills, and engagement (Manuel & Mempin, 2025; Santos et al., 2025). These findings provide a foundation for the present study, which seeks to explore how teachers' competence in content knowledge, teaching strategies, and assessment relates to learners' mathematics performance, guiding the development of instructional materials tailored to student needs.

Theoretical Underpinnings

This study is anchored on Competence Motivation Theory by Susan Harter (1978), which expands on Robert White's "effectance" motivation theory. Harter's framework emphasizes that individuals are motivated to engage in activities that allow them to demonstrate and develop competence across cognitive, physical, and social domains.

According to the theory, individuals are driven to attempt mastery in tasks that are optimally challenging. Success in these tasks, coupled with socio-emotional support from significant others, enhances perceptions of competence (belief in one's abilities) and perceptions of performance control (belief in one's ability to influence outcomes). These positive perceptions generate pleasure and reinforce the motivation to be competent, encouraging further engagement and effort.

Conversely, repeated failure, lack of reinforcement, or negative feedback can diminish perceptions of competence and control, leading to anxiety, shame, and decreased motivation within the domain.

In the context of this study, Competence Motivation Theory is particularly relevant for understanding teachers' motivation to enhance their content knowledge, teaching strategies, and

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assessment practices, which can influence their effectiveness and, consequently, learners' mathematics performance. Teachers' mastery experiences and reinforcement within the professional environment may therefore affect both their competence and instructional outcomes.

Objectives

The study aimed to determine the level of teachers' competence in relation to learners' mathematics performance in a district in Northern Negros Occidental during the School Year 2021–2022. Specifically, this study sought to determine the profile of the teacher-respondents in terms of age, highest educational attainment, and length of service; the level of teachers' competence in the areas of content knowledge, teaching strategies, and assessment of learning; the level of teachers' competence when grouped according to their demographic characteristics; the level of learners' mathematics performance during the first and second quarters; the significant differences in teachers' competence across the demographic variables; the significant relationship between teachers' competence and learners' mathematics performance; and, based on the findings, the development of instructional materials to enhance teaching and learning in mathematics.

Methodology

This chapter presents the research design, study locale, respondents, instruments, validity and reliability measures, data-gathering procedures, research ethics, and statistical tools used for analysis.

Research Design

This study employed a descriptive research design combined with a quantitative approach, emphasizing the systematic collection and presentation of data on teachers' competence and learners' performance in mathematics. Descriptive research is well-suited to providing factual, systematic information about existing conditions, practices, and behaviors, allowing the researcher to observe, document, and analyze phenomena as they naturally occur (Creswell & Creswell, 2023). Descriptive research allows the investigator to explore questions about who, what, when, where, and how by obtaining information directly from the targeted respondents through structured survey instruments. It does not aim to determine cause-and-effect relationships or explain why phenomena occur. The gathered numerical data are analyzed using both descriptive and inferential statistical techniques to provide meaningful interpretations. This design is suitable for the study because it enables an accurate representation of existing conditions and relationships between variables, offering a clear, organized, and comprehensive understanding of teachers' competencies and learners' mathematics achievement within the selected district.

Locale of the Study

The study was conducted in District 10, a medium-sized division in Northern Negros Occidental. The district comprises four secondary schools known for both academic and extracurricular achievements. One school was recognized as the Most Outstanding Secondary School for Mega Category (2019), while another received awards for Brigada Eskwela implementation and for producing MTAP qualifiers from the division to the national level.

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The district has 31 Mathematics teachers who serve as dedicated math instructors. Despite the limited number of teachers, they have maintained high performance standards, as reflected in the district's Mathematics Performance Score (MPS). This context provides a meaningful setting for examining the relationship between teacher competence and learners' mathematics performance in local schools.

Respondents of the Study

The respondents of this study were the 31 Mathematics teachers from District 10 in Northern Negros Occidental. Given the manageable population size, total enumeration was used, including all teachers assigned to teach Mathematics in the district. This population represents all active Mathematics teachers in the district, ensuring that the study captures a complete and accurate picture of teacher competence in relation to learners' mathematics performance.

Data Gathering Instrument

This study employed a self-developed questionnaire to assess teachers' competence in Mathematics. The questionnaire was divided into two parts: Part 1 collected the respondents' profile, including age, highest educational attainment, and length of service; Part 2 contained the questionnaire proper, focusing on content knowledge, teaching strategies, and assessment of learning. The respondents were asked to rate each item using a five-point Likert scale, ranging from 5 (always) to 1 (almost never). This scale provided quantitative data that allowed the researcher to systematically analyze and interpret the teachers' competencies.

Instrument Validity and Reliability

The questionnaire underwent validity and reliability testing to ensure its suitability for the study. Validity, defined as the extent to which an instrument accurately measures the intended construct (Creswell & Creswell, 2023), was established through face validation by three education experts. These validators included a Head Teacher II with a Master's degree, a Principal I holding a Master of Arts in Education, and an Education Program Supervisor in Mathematics with a Doctoral degree. Using the criteria presented by Carter V. Good and Douglas E. Scates, the instrument obtained a validity rating of 4.96, indicating that it was clear, relevant, and appropriate for measuring teachers' competence in mathematics.

Reliability, which refers to the consistency and stability of the instrument (Field, 2021), was assessed through a pilot test involving 30 Mathematics teachers from a nearby school that was not included in the main study. The responses were analyzed using Cronbach's alpha, which yielded a reliability coefficient of 0.814. This result confirmed that the questionnaire was highly reliable and suitable for systematically capturing data on teachers' competencies.

Data Gathering Procedure

After establishing the questionnaire's validity and reliability, the researcher secured permission from the Schools Division Superintendent to conduct the study. Once approved, a data

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collection schedule was coordinated, and letters were sent to the schools and teacher-respondents informing them of the study.

The purpose of the study was explained to the respondents through a cover letter attached to the questionnaire. The instrument was administered electronically via Google Forms to comply with health and safety protocols during data collection. Respondents were asked to complete all items honestly, reflecting their experiences and perceptions regarding their competence in teaching mathematics.

The collected responses were recorded in an Excel file and later analyzed using the Statistical Package for the Social Sciences (SPSS). Throughout the process, respondents' participation was voluntary, and confidentiality and anonymity were strictly maintained.

Research Ethics Protocol

This study followed established ethical guidelines to protect the rights and welfare of the participants. Participation was entirely voluntary, and respondents were informed that they could withdraw from the study at any time without any negative consequences. Informed consent was obtained prior to data collection, with respondents given a clear explanation of the study's purpose, procedures, time requirements, potential risks, and benefits.

The study posed minimal risk, primarily involving the possibility of slight discomfort while answering questions. To address this, respondents were assured they could skip any item they felt uncomfortable with. All data collected were treated with strict confidentiality, and anonymity was ensured by using codes instead of names, preventing the identification of individual participants.

Although there were no direct financial or material benefits, the findings aimed to provide valuable insights that could improve teaching practices, learner outcomes, and educational policies. The ethical measures implemented ensured that participants' rights, privacy, and dignity were fully protected throughout the research process.

Finally, this study did not involve vulnerable populations, such as very young children, ethnic or racial minorities, the homeless, prisoners, or individuals with incurable diseases, thereby minimizing ethical risks to participants.

Analytical and Statistical Schemes

Objective No. 1 employed a descriptive-analytic approach using frequency counts and percentages to profile respondents by age, highest educational attainment, and length of service. Objective No. 2 also used a descriptive-analytic scheme with mean scores to assess teachers' competence across content knowledge, teaching strategies, and assessment of learning. Objective No. 3 employed comparative descriptive analysis using mean scores to examine variations in teachers' competence across the aforementioned demographic variables. Objective No. 4 employed a descriptive-analytic approach, using mean scores to assess learners' mathematics performance in the first and second quarters of School Year 2021-2022. Objective No. 5 employed an inferential analytical scheme using the Mann-Whitney U test to determine significant differences in teachers' competence across groups, while Objective No. 6 used Spearman's Rho correlation to examine the

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relationship between teachers' competence and learners' mathematics performance. For all inferential analyses, $p \leq 0.05$ was set as the criterion for statistical significance.

Results and Discussion

This chapter presents the study's findings based on the statistical analyses conducted. The results are organized and presented in tables for clarity, followed by interpretations and analyses highlighting significant trends and patterns. Implications of the findings are discussed to provide a deeper understanding of teachers' competence in relation to learners' mathematics performance and to inform practical recommendations.

Profile of the Respondents in Terms of Age, Highest Educational Attainment, and Length of Service

Table 1
Profile of the Respondents

Variable	Category	Frequency	Percentage
Age	Younger (below 33 years old)	15	48.4
	Older (33 years old & above)	16	51.6
	Total	**31**	**100.00**
Highest Educational Attainment	Lower (Bachelor's Degree)	22	71.0
	Higher (Master's & Doctorate Degrees)	9	29.0
	Total	**31**	**100.00**
Length of Service	Shorter (less than 8 years)	11	35.5
	Longer (8 years or more)	20	64.5
	Total	**31**	**100.00**

Table 1 presents the demographic profile of the teacher-respondents by age, highest educational attainment, and length of service. The respondents are almost evenly distributed by age, with 48.4% under 33 and 51.6% aged 33 and older, reflecting a balance between early-career and more experienced teachers. Most teachers (71.0%) hold a bachelor's degree, while 29.0% have pursued advanced graduate studies. In terms of teaching experience, 35.5% have less than 8 years of service, while 64.5% have 8 or more years. This profile indicates a workforce composed of both younger and older educators, mainly bachelor's degree holders, and predominantly experienced

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teachers, which may influence variations in competence and instructional practices (Creswell & Creswell, 2023).

Level of Teachers' Competence in the Area of Content Knowledge, Teaching Strategies, and Assessment of Learning

Table 2
Level of Teachers' Competence in the Area of Content Knowledge

Items	Mean	Interpretation
As a teacher, I ….		
1. Apply knowledge of Mathematics content within the required curriculum areas.	4.25	High Level
2. Prepare lesson plans with appropriate objectives, activities, and instructional materials in Math.	4.06	High Level
3. Aim to achieve 100% of lesson objectives for each class.	4.09	High Level
4. Prepare lessons that would direct learners into developing creative and critical thinking.	4.12	High Level
5. Explore all other available strategies to promote the numeracy skills of students.	3.48	Moderate Level
6. Practice before delivering the lesson to be able to demonstrate full understanding of Math lessons.	3.45	Moderate Level
7. collaborate with colleagues in the delivery of all lesson content.	4.19	High Level
8. highly adhere to the principles of teaching and learning.	4.22	High Level
9. Use the mother tongue to explain some theories to facilitate easy understanding.	3.45	Moderate Level
10. aided with appropriate video clips using online platforms.	4.03	High Level
Overall mean	3.93	**High Level**

Table 2 presents that the teachers' level of competence in content knowledge obtained an overall mean of 3.93, interpreted as High Level. This indicates that teachers generally demonstrate strong mastery of mathematical concepts and can apply them effectively in classroom instruction. The highest-rated indicator was the ability to apply mathematics content within the required curriculum areas, while exploring varied strategies to promote numeracy skills, practicing lessons before delivery, and using the mother tongue to explain mathematical concepts received moderate ratings. The result is supported by Donovan et al. (2020), who emphasized that strong teacher content knowledge enhances instructional effectiveness and helps address learners' misconceptions in mathematics.

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Table 3
Level of Teachers' Competence in the Area of Teaching Strategies

Items	Mean	Interpretation
As a teacher, I ….		
1. structure and maintain a classroom that is conducive to learning	4.00	High Level
2. apply a range of teaching strategies to develop critical and creative thinking, as well as other higher-order thinking skills.	3.51	High Level
3. facilitate individual activities.	4.19	High Level
4. ensure the positive use of ICT to facilitate the teaching and learning process.	3.67	High Level
5. encourage learner participation.	4.00	High Level
6. Take into consideration learners' gender, needs, strengths, interests, and experiences.	3.80	High Level
7. Give preferential attention to learners from indigenous groups.	3.54	High Level
8. advocate and implement a fair learning environment.	3.70	High Level
9. Use differentiated instructions for students with special learning needs.	3.90	High Level
10. Take into account the learning skills and abilities of students.	3.70	High Level
Overall mean	3.80	**High Level**

Table 3 presents that the teachers' level of competence in teaching strategies obtained an overall mean of 3.80, interpreted as High Level. This indicates that teachers generally demonstrate strong pedagogical skills and can apply appropriate instructional strategies when delivering mathematics lessons. The highest-rated indicator was facilitating individual activities, suggesting that teachers effectively provide learners with opportunities to work independently and engage actively in the learning process. Meanwhile, applying a range of teaching strategies to develop critical and creative thinking obtained the lowest mean, although it still falls within the high-level range.
The result is supported by Kim and Tan (2022), who emphasized that effective teaching strategies, particularly learner-centered activities, enhance students' engagement and promote a deeper understanding of mathematical concepts.

Table 4
Level of Teachers' Competence in the Area Assessment of Learning

	Items	Mean	Interpretation
	As a teacher, I…		
1.	Carefully plan and manage every assessment process.	4.16	High Level
2.	Conducts at least four (4) quarterly summative tests.	4.06	High Level
3.	Maintain an updated progress report of each student.	3.77	High Level
4.	Provide exclusively relevant feedback to parents and learners.	3.77	High Level

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5.	design, select, organize, and utilize effective assessment strategies.	3.83	High Level
6.	facilitate remediation for learners who need assistance based on assessment results.	4.22	High Level
7.	Provide clearer assessment targets and success criteria through feedback.	4.25	High Level
8.	elicit useful evidence of learning through proper feedback.	4.12	High Level
9.	Monitor and evaluate learners' progress and achievements.	4.25	High Level
10.	allow learners to increase ownership of their own learning.	3.93	High Level
	Overall mean	4.04	High Level

Table 4 shows that the teachers' level of competence in assessment of learning obtained an overall mean of 4.04, interpreted as High Level. This indicates that teachers are generally competent in planning, implementing, and using assessment processes to support learners' progress in mathematics. The highest-rated indicators were providing clear assessment targets and success criteria, and monitoring and evaluating learners' progress, while maintaining updated progress reports and providing feedback to parents; learners obtained relatively lower means, though still within the high-level range.

The result is supported by Ole (2019), who emphasized that strong assessment literacy enables teachers to design effective assessments, monitor learner progress, and provide meaningful feedback that supports student learning.

Level of Learners' Math Performance in the First and Second Quarters of SY 2021-2022

Table 5
Level of Learners' Math Performance in the First and Second Quarters of School Year 2021 – 2022

Quarters	Mean	Interpretation
First Quarter	86.90	Very Satisfactory
Second Quarter	87.03	Very Satisfactory
Overall Mean	86.96	Very Satisfactory

Table 5 shows that learners achieved an overall mean score of 86.96 in Mathematics for the first and second quarters of the School Year 2021–2022, which is interpreted as Very Satisfactory. Performance was consistent, with a mean of 86.90 in the first quarter and 87.03 in the second quarter. This steady achievement suggests that teachers' instructional strategies, lesson delivery, and assessment practices positively influenced students' understanding and performance in Mathematics.

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Adeyemi and Olawale (2021) supported the results, emphasizing that effective lesson planning, varied teaching strategies, and timely feedback contribute to sustained high student performance in Mathematics.

Comparative Analysis in the Level of Teachers' Competence in Content Knowledge, Teaching Strategies, and Assessment of Learning when grouped and compared according to Age, Educational Attainment, and Length of Service

Table 6
Difference in the Level of Teachers' Competence in the Area of Content Knowledge When Grouped and Compared According to the Aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	15	15.80	117.00	0.905	0.05	Not Significant
	Older	16	16.19				
Educational Attainment	Lower	22	16.75	82.50	0.470	0.05	Not Significant
	Higher	9	14.17				
Length of Service	Shorter	11	16.50	104.50	0.819	0.05	Not Significant
	Longer	20	15.73				

Table 6 shows that teachers' content knowledge does not differ significantly by age, educational attainment, or length of service ($p > 0.05$). The result is supported by Alharbi and Alqahtani (2021) and local studies (Santos & Villanueva, 2023), which highlight that continuous professional development and collaborative learning, rather than demographic factors, are key to maintaining high content mastery across teachers.

Table 7
Difference in the Level of Teachers' Competence in terms of Teaching Strategies When Grouped and Compared According to the Aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	15	15.60	114.00	0.812	0.05	Not Significant
	Older	16	16.38				
Educational Attainment	Lower	22	16.39	90.50	0.710	0.05	Not Significant
	Higher	9	15.06				

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Length of Service	Shorter Longer	11 20	16.77 15.58	101.50	0.724	0.05	Not Significant

Table 7 shows that teachers' competence in teaching strategies does not significantly differ across age, educational attainment, or length of service ($p > 0.05$). Younger and older teachers, as well as those with lower or higher educational qualifications, demonstrate comparable instructional skills, and years of teaching experience do not appear to substantially influence competence. The result is supported by Graham, White, Cologon, and Pianta (2020), highlighting that effective teaching strategies are shaped more by ongoing professional development, reflective practice, and collaborative learning than by demographic characteristics, emphasizing the importance of sustained capacity-building initiatives for all teachers.

Table 8
Difference in the Level of Teachers' Competence in the Area of Assessment of Learning When Grouped and Compared According to the Aforementioned Variables

Variable	Category	N	Mean Rank	Mann-Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger Older	15 16	15.13 16.81	107.00	0.606	0.05	Not Significant
Educational Attainment	Lower Higher	22 9	19.34 7.83	25.50	0.001	0.05	Significant
Length of Service	Shorter Longer	11 20	19.45 14.10	72.00	0.115	0.05	Not Significant

Table 8 presents that teachers' competence in assessment of learning is generally consistent across age and length of service ($p > 0.05$), suggesting that both younger and older teachers, as well as novice and experienced teachers, demonstrate similar capabilities in designing, implementing, and interpreting assessments. However, a significant difference was found based on the Educational Attainment ($p = 0.001$), with teachers holding lower academic qualifications reporting higher perceived competence. The result is supported by Asamoah (2023), who emphasized that practical classroom experience and daily engagement with assessment tasks often have a greater impact on teachers' assessment literacy than formal academic qualifications, highlighting the importance of practice-oriented professional development.

Relational Analysis Between the Level of Teachers' Competence and Learners' Math Performance

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Table 9
Relationship Between the Level of Teachers' Competence and Learners' Math Performance

Correlates	r	*p*-value	Level of Significance	Interpretation
Teachers' Competence Learners' Math Performance	0.081	0.664	0.05	Not Significant

Table 9 shows that there is no significant relationship between teachers' competence and learners' mathematics performance (r = 0.081, p = 0.664). This indicates that variations in teachers' content knowledge, teaching strategies, and assessment practices do not directly correspond to differences in learners' achievement during the period examined. The result is supported by Graham et al. (2020), who noted that beyond a basic competence threshold, student performance is more strongly influenced by contextual and learner-level factors such as motivation, home support, and access to resources rather than by teacher characteristics alone. These findings suggest that improving learner outcomes in mathematics requires holistic strategies that combine teacher competence with supportive learning environments and resources.

Conclusion

The study found that teachers demonstrated high competence in Content Knowledge, Teaching Strategies, and Assessment of Learning, with Teaching Strategies rated lowest, reflecting the challenges of modular distance learning during the pandemic. Teachers with higher educational attainment reported lower satisfaction with teaching strategies and assessment practices, likely due to limited interaction and reliance on parents for student assessments. No significant differences were observed in Content Knowledge and Teaching Strategies across demographic and professional variables, while assessment competence varied significantly with educational attainment. Overall, the findings suggest that, despite generally high competence, modular learning posed specific challenges in strategy implementation and assessment credibility, particularly for educators with advanced degrees.

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Conflict of Interest

The author declares that there is no conflict of interest regarding the conduct and publication of this study. All procedures, data collection, analysis, and interpretations were carried out objectively and without any financial, personal, or professional influence that could have affected the results or conclusions of the research.

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