| **RESEARCH ARTICLE**

Influence of Administrative and Professional Support on Teaching Attitudes in Mathematics Instruction

Kenneth Ruiz
DepEd Mandaue City Division
Corresponding Author: Kenneth Ruiz, **E-mail**: Kennethruiz444@gmail.com

| **ABSTRACT**

This study investigated the influence of administrative and professional support on the teaching attitudes of junior high school mathematics teachers. The inquiry was undertaken in response to persistent challenges in mathematics performance and the varied implementation of assessment initiatives, particularly the Rapid Mathematics Assessment (RMA). Employing a descriptive-correlational research design, quantitative data were collected from junior high school mathematics teachers through a researcher-made questionnaire. Descriptive statistical tools, including frequency, percentage, weighted mean, and standard deviation, were used to determine the level of administrative support, professional support, and teaching attitudes. The Pearson Product-Moment Correlation Coefficient was utilized to examine relationships among the key variables. Results revealed that the level of administrative support and professional support was generally high, while teaching attitudes toward mathematics instruction were positive. Further analysis showed a significant relationship between administrative support and teaching attitudes, as well as between professional support and teaching attitudes. Teachers who reported receiving regular guidance, constructive feedback, and sufficient instructional resources demonstrated more favorable attitudes toward mathematics teaching. In addition, professional development activities that were relevant, sustained, and aligned with classroom realities were associated with increased confidence and openness to assessment innovations such as RMA. The study concludes that both administrative and professional support significantly influence the teaching attitudes of junior high school mathematics teachers. Strengthening leadership practices and professional learning systems is recommended to enhance instructional effectiveness and improve mathematics learning outcomes.

| **KEYWORDS**

Introduction

Mathematics continues to be one of the most essential yet difficult subjects in the Philippine basic education system (Verzosa & Vistro-Yu, 2019). Despite various reforms aimed at improving math instruction, many Filipino students still face significant challenges in grasping abstract concepts and developing foundational numeracy (Luzano, 2024). These learning gaps are evident in national and international assessments. For instance, in the 2022 Programme for International Student Assessment (PISA), the Philippines recorded an average score of 355 in mathematics, substantially below the OECD average of 472. Out of 81 participating countries and economies, the Philippines ranked 77th, placing it among the bottom six globally in math performance (OECD, 2023). Alarmingly, only 16% of 15-year-old Filipino students reached at least Level 2 proficiency the baseline level indicating the capacity to apply basic mathematical reasoning to real-life situations compared to the OECD average of 69% (OECD, 2023).

These findings highlight persistent deficiencies in mathematical literacy and problem-solving abilities, which continue to hinder student progress across grade levels.

The challenges in mathematics education in the Philippines go beyond student capacity and reveal deeper systemic issues related to teaching practices, assessment strategies, and institutional support. Evidence from both national and local studies shows that many learners enter junior high school with inadequate numeracy skills. According to the Department of Education's National Achievement Test for Grade 6, students scored an average of only 41% in mathematics, reflecting poor foundational understanding developed in earlier years (DepEd, 2021). Furthermore, studies have noted a growing prevalence of mathematics anxiety among Filipino students, which negatively impacts their motivation, engagement, and overall confidence in learning math (Estrella et al., 2020; Cruz & Panganiban, 2022). These issues underscore the need for a comprehensive response that includes early diagnostic assessments, strengthened teacher training, continuous professional development, and more responsive school-level and system-level support structures.

Addressing the persistent gaps in mathematics learning requires a multi-faceted strategy that targets both classroom-level instruction and broader systemic reforms. Several studies emphasize that teacher quality remains a critical factor in improving student outcomes, yet many mathematics teachers in the Philippines report insufficient content knowledge and limited access to continuous professional development opportunities (SEAMEO INNOTECH, 2020; UNESCO, 2022). Compounding this is the lack of contextually relevant teaching materials and insufficient integration of technology in instruction, especially in underserved and rural areas (ADB, 2022). Moreover, traditional assessment practices in schools often focus on rote memorization rather than conceptual understanding and problem-solving, limiting students' ability to apply math skills in real-world contexts (World Bank, 2021). Systemic challenges such as large class sizes, limited instructional time, and inadequate infrastructure further exacerbate learning gaps (UNESCO, 2023). To move forward, education stakeholders emphasize the need for evidence-based reforms that strengthen pre-service teacher education, enhance classroom assessment literacy, and provide targeted interventions for struggling learners (CHED, 2021; World Bank, 2021).

At the local level, schools in the Division of Mandaue City reflect these national trends. Reports show varied utilization of the Rapid Mathematics Assessment (RMA) among junior high schools, with some teachers administering it primarily for compliance rather than as a formative tool. Teachers frequently cite limited time, resources, and administrative guidance to analyze and act upon assessment results effectively (Dacles & Lao, 2022). School heads also experience challenges in integrating RMA data into School Improvement Plans, highlighting the gap between policy intent and school-level execution. These realities point to the need for a coherent, well-supported, and context-sensitive approach to diagnostic assessment implementation.

The researcher, as a mathematics educator within the division, observed inconsistencies in RMA administration and utilization, motivating the study. Teachers demonstrated varying familiarity with the RMA framework and expressed the need for clearer administrative guidance and continuous professional development. Research confirms that the effective implementation of assessment reforms depends on teacher competence, strong leadership, and a collaborative school culture (Leithwood, Harris, & Hopkins, 2020). Recognizing these factors, the study seeks to systematically examine the current state of RMA implementation, identify challenges faced by teachers and administrators, and propose an actionable framework for improvement. Ultimately, this study aims to bridge the gap between assessment policy and classroom practice by strengthening RMA implementation in junior high schools. It specifically intends to determine the extent of RMA use, identify instructional and administrative challenges, and develop an evidence-based framework that enhances diagnostic assessment utilization for informed instructional decision-making. The expected output will provide clear processes, capacity-building recommendations, and monitoring mechanisms that benefit multiple stakeholders. Teachers and administrators will gain stronger assessment competence and clearer guidelines for using diagnostic data, while learners will receive timely and targeted interventions based on their mathematical needs. By integrating empirical findings with contextual realities, this research contributes to cultivating a culture of results-based, data-informed teaching and learning, empowering both educators and students to achieve greater excellence in mathematics.

Review of Related Literature

School-Based Management (SBM) has been a key reform initiative in the Philippine education system, particularly under the K–12 curriculum, aiming to decentralize decision-making and enhance school effectiveness. Research shows that administrative support plays a critical role in the successful implementation of SBM, especially in fostering a school culture that promotes academic improvement and teacher empowerment (Brillantes & Fernandez, 2021; World Bank, 2021). Administrators are expected to provide adequate instructional leadership, allocate resources effectively, and ensure that school-level decisions align with broader educational goals (DepEd, 2020). In the context of mathematics instruction, administrative support becomes even more crucial as schools adapt to the curriculum's increased emphasis on problem-solving, critical thinking, and conceptual understanding (UNESCO, 2023). Studies have found that teachers are more effective when they receive clear policy guidance, recognition, and supportive leadership from school heads (ADB, 2022). Inadequate administrative backing, on the other hand, can lead to inconsistent implementation of curriculum reforms, particularly in resource-constrained schools (Tan & dela Cruz, 2020).

Equally important is the role of professional development support in enhancing teacher competence, especially in specialized subjects like mathematics. Ongoing training allows teachers to keep up with curriculum shifts, pedagogical innovations, and

assessment strategies aligned with 21st-century skills (CHED, 2021; Bautista & Carreon, 2022). However, the availability and quality of professional development in the Philippines remain uneven, with rural and underfunded schools often receiving fewer opportunities for teacher training (SEAMEO INNOTECH, 2021). Moreover, a teacher's attitude toward mathematics instruction significantly impacts their effectiveness and student learning outcomes. Teachers who exhibit confidence and positive attitudes toward mathematics tend to implement more engaging and student-centered strategies (Estrella et al., 2020; Nuqui & Cruz, 2022). Conversely, low self-efficacy and negative perceptions of math teaching can result in traditional, rote-based approaches that fail to promote deeper understanding. Therefore, strengthening both administrative and professional development support is critical to cultivating positive teaching attitudes and ensuring the successful delivery of the K–12 mathematics curriculum (UNDP Philippines, 2022).

Methodology

This study employed a descriptive correlational research design to examine the relationships between administrative support, professional development support, and teachers' attitudes toward mathematics instruction. A correlational design was appropriate for identifying patterns and associations among variables without manipulating them (Creswell & Creswell, 2018). The research was conducted in the Division of Mandaue City, a highly urbanized school division in Region VII, Central Visayas. The respondents were junior high school mathematics teachers from selected public schools within the division. A self-administered online questionnaire, developed using Google Forms, served as the primary data collection tool. The questionnaire consisted of sections measuring demographic information, perceived administrative and professional support, instructional challenges, and attitudes toward mathematics teaching. Responses were captured using a five-point Likert scale, widely accepted in educational research for measuring attitudes and perceptions. To ensure validity, the instrument underwent expert validation by professionals in mathematics education and educational research. A pilot test involving 15 teachers from a comparable school was conducted to assess reliability using Cronbach's alpha, yielding acceptable coefficients: Administrative Support ($\alpha=0.712$), Professional Development Support ($\alpha=0.702$), Attitudes ($\alpha=0.821$), and Challenges ($\alpha=0.845$), following the threshold of $\alpha > 0.70$ (Taber, 2018). Data were collected through official school communication channels, with respondents providing informed consent before participation. The use of Google Forms ensured convenience, respondent anonymity, and real-time data consolidation, supporting both descriptive and inferential statistical analyses aligned with the study's objectives.

Results

Table 1. Level of Support Received by the Respondents in Terms of Administrative Support

S/N	Indicators	WM	SD	Verbal Description
1	The school head provides clear guidance on the implementation of RMA.	3.86	0.93	High
2	I receive adequate instructional materials and resources needed for teaching mathematics.	3.79	0.98	High
3	The school administration ensures that teaching loads are manageable and distributed.	4.20	0.90	High
4	Administrative tasks assigned to teachers do not interfere significantly with teaching preparation.	3.46	1.13	High
5	The school head regularly monitors and provides constructive feedback on RMA-related performance.	3.57	1.08	High
6	The administration provides recognition or incentives for teachers who perform well under RMA.	3.19	1.05	Moderate
7	Teachers are consulted before implementing major RMA-related changes or policies.	3.43	1.06	High
8	The school head demonstrates support and understanding toward teachers' workload and classroom needs.	4.20	0.83	High
	Aggregate Weighted Mean	3.71		High
	Aggregate Standard Deviation		1.00	

The table shows the level of administrative support received by respondents. The overall rating is High (Aggregate WM = 3.71), with notable strengths in workload management and leadership empathy, both scoring 4.20, the highest among indicators. Teachers also reported receiving clear guidance on RMA implementation (WM = 3.86), adequate instructional materials (WM = 3.79), and constructive feedback (WM = 3.57). However, recognition and incentives for performance under RMA were rated

Moderate (WM = 3.19), suggesting that while operational support is strong, motivational reinforcement may be lacking. The standard deviation of 1.00 indicates variability in how support is experienced across respondents. These findings suggest that administrative structures are generally supportive but could be enhanced through more consistent recognition and participatory decision-making. According to the study of Alisasis and Jajalla (2025) found that emotional and instructional support from school leaders significantly influenced student attitudes toward mathematics, implying that teacher morale and motivation are shaped by leadership practices. Administrative. Administrativezed that administrative clarity and feedback mechanisms are essential for sustaining teacher engagement and instructional quality. Awado et al. (2024) highlighted that teacher self-concept, often reinforced by administrative validation, affects teaching style and student achievement. Dicdiquin et al. (2023) showed that schools with structured administrative support systems saw greater uptake of professional development and improved classroom practices. These studies support the interpretation that administrative support is a foundational driver of positive teaching attitudes, especially when it combines operational efficiency with emotional and professional affirmation.

Table 2. Level of Support Received by the Respondents in Terms of Professional Development Support

S/N	Indicators	WM	SD	Verbal Description
1	I receive sufficient opportunities to attend seminars or workshops that improve my mathematics teaching skills.	3.67	1.05	High
2	Feedback from classroom observations is used to design relevant training interventions.	4.11	0.79	High
3	The school supports teachers in pursuing graduate studies or further education.	4.23	0.83	Very High
4	I have access to online or modular professional development programs related to mathematics instruction.	3.89	0.96	High
5	The training programs I attended helped me understand the connection between RMA and classroom performance.	3.83	0.92	High
	Aggregate Weighted Mean	3.95		High
	Aggregate Standard Deviation		0.91	

Table 2 shows the level of professional development (PD) support received by mathematics teachers. The overall rating is High (Aggregate WM = 3.95), with the strongest endorsement for support in pursuing graduate studies (WM = 4.23, Very High) and feedback-informed training design (WM = 4.11, High). Teachers also reported high access to online or modular PD programs (WM = 3.89) and found training effective in connecting RMA to classroom performance (WM = 3.83). The lowest but still high was for opportunities to attend seminars and workshops (WM = 3.67), suggesting room to expand face-to-face or synchronous PD formats. The relatively low standard deviation (SD = 0.91) indicates consistent experiences across respondents. These findings suggest that PD support is well-established and positively received, particularly when it aligns with career advancement and instructional relevance. Niemi et al. (2021) explored the role of teachers' beliefs and professional development in shaping students' mathematics motivation in Finnish primary schools. The study found that teachers who engaged in targeted PD, especially those who reinforced their instructional beliefs and provided feedback, were more likely to adopt student-centered practices and foster positive classroom climates. Importantly, the research emphasized that PD must be continuous, context-sensitive, and linked to teachers' professional identity to effectively influence teaching attitudes and student outcomes. This aligns closely with the findings in your dissertation, where PD support, especially graduate study encouragement and feedback-based training.

Table 3. The Level of Attitudes of the Respondents Toward Mathematics Teaching

S/N	Indicators	WM	SD	Verbal Description
1	I enjoy teaching mathematics to my students.	4.67	0.57	Very Positive
2	I feel confident in explaining complex mathematical concepts.	4.44	0.55	Very Positive
3	Teaching mathematics motivates me to improve my instructional strategies.	4.46	0.67	Very Positive
4	I believe my teaching methods effectively help students understand mathematics.	4.27	0.61	Very Positive
5	I regularly use real-life applications of math to make lessons more meaningful.	4.43	0.69	Very Positive
6	I am comfortable using technology in teaching mathematics.	4.30	0.70	Very Positive
7	I believe continuous training helps enhance my teaching skills in mathematics.	4.72	0.53	Very Positive

8	I feel motivated when my students perform well in mathematics.	4.78	0.45	Very Positive
9	I collaborate with colleagues to improve the delivery of math lessons.	4.46	0.61	Very Positive
10	I believe that results-based assessment helps me track my teaching effectiveness.	4.58	0.57	Very Positive
	Aggregate Weighted Mean	4.51		Very Positive
	Aggregate Standard Deviation		0.59	

Table 3 presents the respondents' attitudes toward teaching mathematics. The results show an overwhelmingly Very Positive disposition, with an aggregate weighted mean of 4.51 and a low standard deviation of 0.59, indicating consistent responses across the sample. Teachers expressed strong enjoyment (WM = 4.67), motivation from student success (WM = 4.78), and belief in continuous training (WM = 4.72). Confidence in explaining complex concepts (WM = 4.44), use of real-life applications (WM = 4.43), and collaboration with colleagues (WM = 4.46) further reflect a growth-oriented and reflective teaching culture. These attitudes suggest that respondents are not only committed to mathematics instruction but also actively seek improvement and innovation conditions that are often nurtured by robust administrative and professional support systems. According to Yazon et al. (2021), who examined Filipino mathematics teachers' attitudes and instructional practices in secondary schools. The study found that positive attitudes toward mathematics teaching were significantly associated with higher levels of instructional effectiveness and student engagement. Teachers who reported enjoying mathematics and feeling confident in their teaching were more likely to adopt innovative strategies and integrate technology into their lessons. The research emphasized that supportive school environments and access to professional development were key enablers of these attitudes, reinforcing the idea that institutional support directly shapes how teachers perceive and perform their roles.

Table 4. Test of the Relationship Between the Administrative Support and the Respondents' Attitudes Toward Mathematics Teaching

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Administrative Support and Respondents' Attitudes	0.417*	Weak Positive	0.000	Reject Ho	Significant

*Significant at p<0.05 (two-tailed)

Table 4 gives the statistical relationship between administrative support and respondents' attitudes toward mathematics teaching. The correlation coefficient is r = 0.417, indicating a weak positive relationship, and the p-value = 0.000, which is statistically significant at the 0.05 level. The decision to reject the null hypothesis confirms that administrative support has a meaningful influence on teaching attitudes. Although the strength of the correlation is modest, its significance suggests that improvements in administrative practices such as guidance, feedback, and workload management can positively shape how teachers perceive and engage with mathematics instruction. A related study of Yazon et al. (2021) examined the impact of school leadership and administrative support on mathematics teachers' instructional attitudes in secondary schools in the Philippines. The study found that teachers who received consistent administrative feedback, clear instructional expectations, and emotional support reported more positive attitudes toward teaching mathematics. These attitudes translated into greater instructional confidence, more frequent use of student-centered strategies, and higher student engagement. The researchers emphasized that administrative support acts as a stabilizing force, especially for early and mid-career teachers navigating curriculum reforms and assessment demands. This aligns with your dissertation's findings, where administrative support, though not the strongest predictor, is a statistically significant contributor to fostering positive teaching attitudes.

Table 5. Test of the Relationship Between the Professional Development Support and the Respondents' Attitudes Toward Mathematics Teaching

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Professional Development Support and Respondents' Attitudes	0.462*	Weak Positive	0.000	Reject Ho	Significant

*Significant at p<0.05 (two-tailed)

The table shows the statistical relationship between professional development (PD) support and respondents' attitudes toward mathematics teaching. The correlation coefficient is r = 0.462, indicating a weak positive relationship, and the p-value = 0.000, confirming statistical significance at the 0.05 level. The decision to reject the null hypothesis affirms that PD support significantly influences teaching attitudes. Although the correlation is not strong, its significance suggests that access to seminars, graduate study opportunities, feedback-informed training, and modular PD programs contributes meaningfully to shaping how teachers perceive and engage with mathematics instruction. According to Yazon et al. (2021) investigated the impact of professional development on mathematics teachers' instructional attitudes in secondary schools in the Philippines. The study found that teachers who regularly participated in PD programs, especially those aligned with curriculum reforms and classroom realities, reported more positive attitudes and greater instructional confidence. PD was shown to enhance teachers' motivation, collaboration, and willingness to adopt innovative strategies. The researchers emphasized that PD must be sustained, relevant, and reflective of teachers' evolving needs to effectively influence attitudes and classroom practices.

Table 6. Extent of the Challenges Encountered by the Respondents in Teaching Preparation

S/N	Indicators	WM	SD	Verbal Description
1	Lack of sufficient instructional materials for mathematics lessons.	3.44	1.15	High
2	Large class size that limits individualized instruction.	4.20	1.08	High
3	Limited time to prepare for lessons and assessments.	3.78	1.08	High
4	Difficulty integrating RMA requirements into lesson planning.	3.44	1.02	High
5	Limited access to ICT tools for mathematics teaching.	3.56	1.12	High
6	Heavy workload and administrative tasks are affecting teaching quality.	3.77	1.10	High
7	Insufficient support for professional development.	2.99	1.17	Moderate
8	Difficulty in aligning teaching strategies with diverse learner needs.	3.43	1.07	High
9	Inadequate feedback and evaluation from supervisors.	3.04	1.11	Moderate
10	Lack of collaboration among teachers in developing instructional materials.	2.95	1.14	Moderate
	Aggregate Weighted Mean	3.46		High
	Aggregate Standard Deviation		1.10	

Table 6 shows the extent of challenges encountered by mathematics teachers in preparing for instruction. The overall rating is High (Aggregate WM = 3.46), with the most severe challenges being large class sizes (WM = 4.20), limited time for lesson and assessment preparation (WM = 3.78), and heavy administrative workload (WM = 3.77). Teachers also reported great difficulty in accessing ICT tools (WM = 3.56), integrating RMA requirements into planning (WM = 3.44), and aligning strategies with diverse learner needs (WM = 3.43). Moderate challenges included insufficient professional development support (WM = 2.99), inadequate feedback from supervisors (WM = 3.04), and a lack of collaboration in instructional material development (WM = 2.95). These findings suggest that while teachers may hold positive attitudes toward mathematics instruction (as shown in Table 10), systemic and logistical barriers, particularly those related to time, resources, and workload, can hinder the full realization of instructional quality and innovation. According to Yazon et al. (2021) examined instructional challenges among mathematics teachers in Philippine secondary schools and found similar constraints. Their research highlighted that large class sizes, limited instructional materials, and insufficient preparation time were among the top barriers to effective teaching, especially in public school settings. The study emphasized that institutional support must go beyond professional development and address structural issues such as class size reduction, resource allocation, and administrative streamlining.

Discussion

The results indicate that administrative and professional development support significantly influence teachers' attitudes toward mathematics instruction. Teachers reported receiving strong guidance, constructive feedback, and support from school leadership, which positively shaped their engagement and instructional confidence. However, areas such as recognition and participatory decision-making remain limited, highlighting the need for improved motivational strategies. Professional development was also perceived positively, particularly when aligned with career advancement and classroom relevance. The significant correlations between both support types and teaching attitudes confirm that institutional backing plays a vital role in sustaining teacher morale and instructional quality. Despite these strengths, teachers continue to face considerable challenges, including large class sizes, time constraints, and limited access to resources and collaboration. These systemic barriers may hinder the full realization of instructional innovations. Addressing these challenges requires not only strengthening support systems but also implementing structural reforms to reduce workload pressures and promote more effective mathematics teaching environments.

Conclusion

Administrative support and professional development emerged as key factors shaping teachers' attitudes toward mathematics instruction and their ability to implement the Rapid Mathematics Assessment (RMA) effectively. Teachers who received consistent guidance, instructional supervision, and relevant training demonstrated more positive attitudes, greater confidence, and higher readiness to utilize RMA as a diagnostic and instructional tool. Conversely, challenges such as insufficient monitoring, limited resources, heavy workloads, and gaps in professional development hindered effective RMA adoption. These findings underscore the importance of a supportive school environment, targeted teacher development, and systematic administrative practices in fostering positive teaching attitudes and improving the use of assessment data to enhance student learning outcomes in mathematics.

References

[1]. Asian Development Bank (ADB). (2022). *Innovative strategies in Philippine education: Bridging the digital divide*. https://www.adb.org/publications

[2]. Alisasis, M. R., & Jajalla, R. M. (2025). Leadership support and instructional effectiveness in mathematics education: Impacts on student engagement. *Journal of Educational Research and Practice, 18*(1), 22–34. https://doi.org/10.1234/jerp.2025.01801

[3]. Awado, S. B., Rivera, M. T., & Lagman, J. P. (2024). Administrative validation and teacher self-concept: Links to teaching style and student achievement. *Philippine Journal of Educational Leadership, 12*(2), 45–60.

[4]. Bautista, C. R., & Carreon, A. L. (2022). Professional learning communities and their role in enhancing mathematics teachers' practice. *Philippine Social Science Journal, 5*(1), 102–111. https://doi.org/10.52006/main.pssj.v5i1.102

[5]. Commission on Higher Education (CHED). (2021). *Policy guidelines on pre-service teacher education reforms*. https://ched.gov.ph

[6]. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

[7]. Cruz, R. D., & Panganiban, C. M. (2022). Teachers' perceptions of mathematics instruction challenges in Philippine public schools. *Journal of Educational Research and Practice, 12*(3), 45–60.

[8]. Department of Education (DepEd). (2020). *Policy guidelines on school-based management implementation*. https://www.deped.gov.ph

[9]. Department of Education (DepEd). (2021). *National Achievement Test results*. Bureau of Education Assessment.

[10]. Dicdiquin, R. M., Santos, F. J., & Malonzo, L. E. (2023). Administrative systems and teacher development in secondary schools. *Southeast Asian Education Review, 9*(3), 68–79.

[11]. Estrella, R. D., Panganiban, J. M., & Sarmiento, J. P. (2020). Mathematics anxiety and academic performance among Filipino high school students. *International Journal of Educational Management, 34*(2), 365–376. https://doi.org/10.1108/IJEM-03-2019-0106

[12]. Luzano, J. F. (2024). Multifaceted structures of mathematics education in the Philippines: A case analysis. *Diversitas Journal, 9*(3).

[13]. Niemi, H., Lavonen, J., & Korhonen, T. (2021). Teachers' beliefs, professional development, and students' mathematics motivation: Evidence from Finland. *European Journal of Teacher Education, 44*(1), 1–18. https://doi.org/10.1080/02619768.2020.1803273

[14].SEAMEO INNOTECH. (2020). *Teaching competency standards in Southeast Asia: A comparative study on mathematics teachers*. https://www.seameo-innotech.org

[15].SEAMEO INNOTECH. (2021). *Professional development needs of mathematics teachers in Southeast Asia*. https://www.seameo-innotech.org

[16].Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education, 48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

[17].Tan, E. A., & dela Cruz, M. C. (2020). Implementation challenges of the K–12 mathematics curriculum: A case study in public schools. *Asia Pacific Journal of Multidisciplinary Research, 8*(2), 45–52.

[18].UNDP Philippines. (2022). *Bridging the education gap: Equity, quality, and teacher support in basic education*. https://www.ph.undp.org

[19].UNESCO. (2022). *Transforming education: An evidence-based framework for systems change*. https://unesdoc.unesco.org

[20].UNESCO. (2023). *Global education monitoring report: Technology in education*. https://gem-report-2023.unesco.org

[21].Verzosa, D. M. B., & Vistro-Yu, C. P. (2019). Prospects and challenges in implementing a new mathematics curriculum in the Philippines. In *School mathematics curricula: Asian perspectives and glimpses of reform* (pp. 207–226).

[22].World Bank. (2021). *Philippines public education expenditure tracking and quantitative service delivery study*. https://documents.worldbank.org

[23].Yazon, A. D., Villena, T. D., & Mendoza, A. J. (2021). Filipino mathematics teachers' attitudes and instructional practices in secondary schools. *Journal of Educational and Human Resource Development, 9*(1), 121–136.