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Lived Experiences of Parents in Supporting the Mathematics Learning of their Children

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ABSTRACT

Parental involvement is vital in mathematics learning, yet the realities parents face in this role are often overlooked. This study examined the lived experiences of parents supporting their children's mathematics education in public secondary schools in Naic, Cavite. Using a qualitative descriptive phenomenological design, 12 parents were interviewed, and data were analyzed through Caulfield's six-step thematic framework. Findings point to parents as digital tool users, home strategy providers, adaptive supporters, and visual approach implementers. Their realities included struggles with content complexity, module errors, generational gaps, retention challenges, and limited student motivation. Parents emphasized the importance of consistent practice, responsiveness to learning styles, and strong family support in navigating these demands. The study recommends parent training, accessible resources, and instructional alignment to strengthen collaboration, enhance parental efficacy, and improve mathematics outcomes in Philippine secondary education.

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Introduction

Parental involvement is widely recognized as crucial for children's learning, particularly in mathematics, shaping both academic performance and learners' attitudes (Waters et al., 2020) and reducing math anxiety (Kiss & Vukovic, 2020). However, many parents encounter challenges, including their own math anxiety, unfamiliarity with school teaching methods

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(Oh et al., 2022), and limited access to learning resources and digital tools (UNESCO, 2023). A substantial body of literature reinforces that parental involvement consistently benefits student outcomes (Jeynes, 2016), yet gaps in capacity and confidence often hinder parents' ability to provide adequate support.

In the Philippine context, parental responsibilities in education are not only encouraged but are also legally mandated. The 1987 Constitution (Article XIV, Section 2) identifies parents as the "primary educators" of their children, establishing a shared responsibility with the State. Republic Act 9155 (Governance of Basic Education Act of 2001) recognizes parents as essential stakeholders who must participate in school processes, while Republic Act 10533 (Enhanced Basic Education Act of 2013) requires schools to strengthen home–school partnerships and engage families in curriculum support and monitoring. These laws define the scope of parental roles, which include providing guidance at home, reinforcing learning tasks, ensuring school attendance and follow-through, and collaborating with teachers on children's progress and needs.

The study also acknowledges that modular learning was implemented only during the COVID-19 pandemic, and although no longer used, the pressures it created, such as increased parental workload, technological demands, and emotional stress (Budhrani et al., 2021; Gonzalez-DeHass et al., 2022), continue to shape current parental attitudes and capacities. To avoid misinterpretation, this research clarifies that it is *not* a pandemic-era study; however, the literature contextualizes how prior learning modalities have influenced parents' current experiences.

A critical backdrop to this topic is the current state of mathematics education in the Philippines. Findings from the Second Congressional Commission on Education (EdCom II, 2023) report persistent learning losses, low mathematics proficiency based on national and international assessments, and frequent class interruptions caused by disasters, heat suspensions, and overcrowded classrooms.

While existing studies discuss parental engagement broadly, they give limited attention to the *specific practices, emotional labor,* and *challenges* that parents encounter in supporting mathematics learning at home. This study anchors its inquiry on Epstein's Framework of Six Types of Parental Involvement, which includes parenting, communicating, volunteering, learning at home, decision-making, and community collaboration. These domains align with the lived experiences explored in this research, particularly how parents assist with home-based mathematics tasks, communicate with teachers, create supportive environments, and navigate instructional challenges.

Given these gaps, phenomenology is the most appropriate methodological approach because it captures parents' lived experiences, emotions, interpretations, and meaning-making—elements that cannot be fully understood through quantitative measures alone.

Taken together, these contexts highlight the need to understand parents' unique experiences in guiding their children's mathematics learning. This study explores these lived experiences by examining parents' strategies, resource use, emotional responses, and efforts to nurture curiosity and resilience.

Literature Review

Parental involvement is widely acknowledged as central to children's learning, yet its role in mathematics presents distinctive challenges that call for closer examination. While parental engagement is consistently linked to higher academic performance and socio-emotional growth, recent studies show that subject-specific factors, such as parents' math anxiety, limited confidence, or unfamiliarity with current teaching approaches, shape the type and quality of support they provide at home (Olayinka, 2023; Silver, 2021; Zanabazar et al., 2023). Excessive control tends to undermine children's persistence and math self-concept, whereas autonomy-supportive practices and encouragement of a growth mindset foster motivation and resilience (DeriNgöl, 2022; Epstein, 2018; Ricci & Lee, 2016).

Recent literature has begun to identify strategies that help parents support mathematics learning more effectively, including facilitating conceptual understanding, linking lessons to real-life contexts, and integrating manipulatives or digital tools (Lin & Mohamed, 2023; Rahman & Abdullah, 2022). A positive home "math culture," open communication with teachers, and multisensory learning experiences have likewise been associated with improved outcomes (Kim & Sidney, 2023; Zheng & Mao, 2023). Despite these advances, much of the scholarship remains situated within broad parental-involvement perspectives and rarely examines mathematics-specific experiences. In addition, most studies rely on surveys or experimental designs, providing limited insight into the lived experiences of parents who navigate time constraints, resource limitations, and cultural expectations while supporting children's mathematics learning.

In the Philippine context, this gap is even more evident. Although Filipino families traditionally play a central role in supporting education, few qualitative or phenomenological studies have explored how parents themselves perceive and experience their role in their children's mathematics learning. This scarcity underscores the relevance of a phenomenological inquiry.

To guide this investigation, the study is anchored in Epstein's Framework of Parental Involvement and Vygotsky's Scaffolding Theory. Epstein's six types of involvement (parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community) offer a structured lens for understanding the multiple ways Filipino parents engage in mathematics learning (Epstein, 2018). Meanwhile, Vygotsky's concept of the "more knowledgeable other" and the Zone of Proximal Development explains how parents scaffold their children's mathematical

understanding by providing guided assistance, adjusting task difficulty, and gradually transferring responsibility as competence improves (Hammond et al., 2020). Together, these frameworks illuminate both the forms of involvement reflected in parents' narratives and the learning processes occurring within parent–child mathematical interactions.

Research Questions/Objectives

This phenomenological study aimed to capture and describe the lived experiences of parents supporting the mathematics learning of their children among public secondary schools in Naic, Cavite, based on the perspectives and experiences of the parents.

Specifically, it sought to answer the following questions:

1. How do parents describe their involvement in supporting the mathematics learning of their children?
2. What are the challenges encountered by the parents in supporting the mathematics learning of their children?
3. What are the realizations of the parents in supporting the mathematics learning of their children?

Methodology

Research Design

This study employed a qualitative research approach, specifically a descriptive phenomenological method, to explore and understand the lived experiences of parents in supporting their children's mathematics learning in a public integrated school in Naic, Cavite. The descriptive phenomenological approach, guided by the works of Moustakas (1994) and Bloomberg & Volpe (2008), was selected because it focuses on capturing the essence of participants' experiences, aligning with the study's objective of understanding parental involvement, the challenges they encountered, and the insights they gained while assisting their children. Thematic analysis, following Jack Caulfield's six-step approach, was utilized to interpret and organize the data.

Participants

Descriptive phenomenological studies rely on the richness of data and continue until redundancy is reached (Palmer et al., 2010). Research on the lived experiences of learners often involves smaller participant groups, typically around 12 respondents (Firouzkouhi et al., 2022; Villareal et al., 2022). In alignment with this trend, the researcher employed a purposive sampling method to select 12 parent participants (see Table 1), ensuring that the selection adhered to specific inclusion criteria: (a) the parent must have a child enrolled in

Grade 7 at a public secondary school, (b) the parent must have assisted with their child's education at least once a week during the SY 2023–2024, and (c) the study included parents regardless of whether they had received formal training or attended seminars on supporting mathematics learning.

Table 1

Participants Profile

Participant	Educational Attainment	Gender	Occupation
P1	Bachelor's Degree	F	Full-time Housewife
P2	Bachelor's Degree	M	IT
P3	Bachelor's Degree	F	Factory Worker
P4	College Level	F	Real Estate
P5	High School Graduate	F	Full-time Housewife
P6	Vocational	M	Aircon Technician
P7	High School Graduate	M	Security Personnel
P8	College Level	F	Printing Business
P9	High School Level	F	Full-time Housewife
P10	Elementary Level	F	Vendor
P11	High School Graduate	F	Full-time Housewife
P12	College Level	F	Full-time Housewife

Instruments

The study used an interview guide adapted from Darragh and Franke (2021), divided into two sections: participant background and experiences in mathematics support. Experts validated the instrument through email consultations, with feedback incorporated before finalization. A research validation certificate was secured to confirm its credibility.

Data Collection Procedures

In gathering the data necessary for this study, the following stages were undertaken by the researcher:

Stage 1: Inquiry and Permissions. Approval was secured from the Schools Division Office and the school Principal to recruit twelve parent participants.

Stage 2: In-depth Interviews. Three interview sessions were conducted at the school after securing informed consent and demographic information. Each 25–35-minute interview followed an unstructured format to allow parents to share their experiences

openly. The researcher maintained a reflexive stance, recognizing their positionality as an educator while ensuring personal assumptions did not shape the data. All interviews were audio-recorded with supporting field notes, and thematic analysis was conducted using a hybrid inductive–deductive approach, combining emerging insights with concepts from the study's theoretical framework.

Stage 3: Transcription and Validation. Recordings were transcribed and validated through member-checking.

Data Analysis

The interview transcripts, validated through member-checking, were analyzed using Caulfield's (2019) six-step thematic analysis framework, beginning with repeated immersion in the data, systematic coding of salient segments, and synthesis of these codes into coherent themes aligned with the research questions. The primary researcher conducted all coding while maintaining reflexivity to minimize bias, and the trustworthiness of the analysis was strengthened through an external audit by three independent experts who reviewed the coding process and thematic development. A hybrid inductive–deductive approach was employed, allowing themes to emerge organically from participant narratives while also being guided by Epstein's Framework of Parental Involvement and Vygotsky's Scaffolding Theory, which informed the deductive interpretation of patterns related to parental roles, communication, instructional support, and scaffolded learning behaviors at home.

Ethical Considerations

Ethical protocols were strictly followed to ensure participant confidentiality and informed consent. Demographic details were anonymized, and all responses were handled with discretion. Participants were informed of the study's purpose, potential benefits, and their right to withdraw at any time. To respect participants' schedules, interviews were conducted after 5:00 PM, based on their availability.

Results and Discussion

This section presents an in-depth exploration of the lived experiences of parents supporting their children's mathematics learning.

Parents' Involvement in Supporting the Mathematics Learning of their Children

Utilizer of Digital Learning Tools

Parents frequently relied on digital platforms such as YouTube, Google, and Brainly to help their children understand math concepts. Tutorials on YouTube were particularly popular,

serving as visual aids that parents could review before teaching. For instance, Participant 2 (P2) shared, *"Nag-search lang po sir sa Google, madalas nanunuod din sa YouTube"* ("I just search on Google, and I often watch YouTube videos"). At the same time, Participant 5 (P5) explained, *"Minsan po sa YouTube, pinapanood ko po siya para mas lalo niya po maintindihan yung gagawin niya po about sa mathematics"* ("Sometimes I let my child watch YouTube so they can better understand what they need to do in mathematics"). These practices align with studies highlighting digital tools as adequate supplementary learning resources (Mohr-Schroeder et al., 2017) and reflect Epstein's Learning at Home component.

At a systems level, however, this reliance exposes inequities: families with stable internet access can leverage high-quality tutorials, but those in low-connectivity areas cannot. Moreover, algorithm-driven search results are not always aligned with the Philippine K–12 curriculum, leaving parents to filter content themselves. Parental background also shaped these behaviors. Parents with limited formal schooling or low confidence in mathematics, such as Participant 5 (P5), depended more on YouTube, Google, and even AI applications as substitutes for their own content knowledge. In contrast, parents with higher education such as Participant 2 (P2) used videos primarily for verification or enrichment. This behavior reflects Vygotsky's idea of seeking a "more knowledgeable other," except that, in this context, parents outsourced expertise to digital sources rather than providing it directly.

Provider of Home-Based Parental Support Strategies

Parents employed a range of home-based strategies such as flashcards, real-life budgeting tasks, and involving older siblings in teaching. For instance, P7 shared how they relied on multiplication and division flashcards, while P4 explained, *"Ako muna yung nag-aaral bago ko sa kanya ituro,"* reflecting a step-by-step modeling approach. P3, on the other hand, used homemade charts, blackboards, and memorization techniques to reinforce concepts, while P4 also incorporated practical tasks like budgeting to help children connect mathematics with daily routines.

However, the effectiveness of these strategies often depends on the availability of guidance. Several parents noted the absence of standardized home activities, resulting in improvised approaches that may not always align with classroom instruction.

Differences in parental education and confidence also surfaced within this theme. Parents with higher education or greater confidence used strategies such as guided questioning (e.g., P5) or scaffolding through repeated drills (e.g., P7). Meanwhile, parents with limited math confidence relied more on real-life examples, sibling assistance, or shared problem-solving (e.g., P8, P9). These variations reflect Vygotsky's scaffolding principles: parents support learning by using strategies they themselves understand and resources they have.

Giver of Consistent and Adaptive Involvement

Parental support varied with the child's level of independence. Elementary students received daily assistance, whereas high school students typically received help 2–3 times per week. A parent described, *"Sa anak ko ngayon, high school na siya, siguro 2 to 3 times a week na lang. Unlike nung elementary, almost 7 days"* ("Now that my child is in high school, I only assist 2 to 3 times a week, unlike in elementary when it was almost every day"). Weekend-focused sessions were common due to work schedules (Hamid & Mansor, 2023). This adaptability reflects Epstein's Learning at Home dimension, but it also highlights broader structural constraints. Parents' capacity to help is tied to work schedules and gendered household roles, meaning involvement is not purely a matter of willingness. Without policy interventions such as parent orientation programs, flexible school–home communication systems, and support for working parents, adaptive involvement risks being uneven across socioeconomic groups.

Adaptive involvement was also shaped by parents' work demands, educational level, and confidence. Parents with stronger mathematical backgrounds (e.g., P2, P4) felt more secure, allowing children to work independently, implementing gradual release consistent with scaffolding theory. Conversely, parents with limited schooling (e.g., P1, P3, P12) reported providing more constant supervision because they feared their child might develop misconceptions.

Implementer of Visual and Practical Learning-Oriented Approaches

Parents favored interactive, hands-on strategies to support their children's mathematics learning, including finger counting, flashcards, and budgeting exercises. For instance, P4 explained, "Tinuturuan ko siya ng pagbabudget para sa bahay. Kapag kailangan niyang bumili, binibigyan ko siya ng pera at siya na ang magko-compute kung magkano ang natitira" ("I teach my child budgeting at home. When they need to buy something, I give them money and they compute how much is left"). Similarly, P7 and P10 incorporated step-by-step demonstrations and real-life examples during daily chores.

Despite these efforts, the burden of contextualizing mathematics falls disproportionately on parents. Schools could support families by embedding culturally relevant, local-context tasks into assignments, reducing the need for parents like P10 to "invent" applied exercises. Such measures would promote equitable access to meaningful practice across households with varying resources.

These practical strategies helped children connect school learning to everyday life while strengthening conceptual understanding and self-efficacy (Barger et al., 2022). They also reflect Vygotsky's scaffolding principle and Epstein's Learning at Home dimension, as parents guided children, gradually released responsibility, and adjusted tasks according to each child's competence. P4 and P7 applied structured, practical methods consistent with

their educational background, while P10 supplemented limited formal instruction with hands-on activities, demonstrating how parental knowledge and initiative shape effective visual and practical learning-oriented support.

Challenges Encountered by the Parents in Supporting the Mathematics Learning of their Children

Difficulty in Understanding the Content

Many parents struggled to understand the math lessons themselves, mainly when relying on online resources. P1 shared, *"Nahihirapan din akong intindihin ang itinuturo sa YouTube… minsan, humihinto muna kami,"* and similar difficulties were echoed by P3, P4, and P10, who found specific topics, formulas, or newer teaching methods hard to grasp. These struggles reveal a persistent knowledge gap that limits parents' capacity to guide their children effectively. The heavy dependence on YouTube, Google, and apps like Photomath further reflects the absence of parent-friendly materials aligned with the curriculum, leaving families to interpret content on their own and increasing the risk of inconsistent or incorrect explanations.

Modular Errors and Incongruities

Parents frequently encountered mistakes and unclear explanations in the modules, which made supporting their children more difficult. As P2 explained, *"Minsan hindi malinaw ang mga halimbawa… may mga typo… nalilito ang mga bata kung bakit iba ang nakikita nila online,"* reflecting the confusion caused by mismatched given values, inconsistent answers, and poorly structured examples. These errors increased parents' cognitive load and often forced them to seek clarification from teachers or cross-check online resources. Beyond individual frustration, these issues point to a systemic gap in quality assurance for modular materials, highlighting the need for stronger editorial review and clearer, curriculum-aligned content to prevent misunderstandings at home.

Generational Learning Differences

Parents often struggle with the gap between the math methods they learned in school and the approaches used today. As P8 shared, *"Iba na ang itinuturo ngayon… 'Ganito ang ginawa namin,' pero iba na sa kanila ngayon,"* reflecting how modern strategies and spiral progression differ from older, more procedural techniques. This mismatch caused confusion, disagreements, and hesitation to teach, out of fear of giving incorrect explanations. These generational differences reveal not only the need for parents to adjust to newer pedagogies but also a communication gap in the system—curriculum reforms were implemented without parallel orientation for parents, leaving families to navigate unfamiliar methods without adequate guidance.

Memory and Retention Issues

Several parents observed that their children easily forgot mathematical procedures, requiring constant repetition at home. P7 described this clearly: *"Mabilis niyang nakakalimutan… paulit-ulit… inuulit namin kung paano mag-divide,"* highlighting the need for repeated practice to reinforce skills. While such a review is common in math learning, parents noted that modules often introduce skills in isolation without providing cumulative practice, leaving them to create their own drills or strategies.

Relearning and Adapting

Many parents had to relearn math concepts before they could assist their children, often studying lessons independently or relying on online tools. As P4 explained, *"Mahirap talaga sa una… ako muna yung nag-aaral bago ko ituro,"* while P10 admitted, *"Hindi ko pinag-aralan iyon… I-Google mo na lang,"* reflecting dependence on digital resources when content was unfamiliar. These experiences show how parents continually adapt to new methods and expectations without formal support. The need to relearn topics on their own underscores a systemic gap: schools rarely provide parent-friendly orientation materials or refresher guides, leaving families to reconstruct mathematical understanding in fragmented and sometimes inaccurate ways.

Lack of Interest and Motivation in Mathematics

Parents commonly faced children's low motivation during math study time, with P6 noting, *"Kapag oras na ng math, inaantok sila… kailangan silang ma-motivate,"* reflecting how disengagement often led to procrastination and slower learning. Several parents observed that their children viewed math tasks as tedious or overwhelming, which made it harder to sustain focus and required extra encouragement at home. While this appears as an individual challenge, it also points to systemic issues: modules and activities that lack contextual relevance or interactive elements make mathematics feel abstract, reducing student interest. These experiences highlight the need for more engaging, culturally relevant, and activity-based materials that naturally support motivation and lessen the burden placed on parents to sustain their child's enthusiasm.

Realizations of Parents in Supporting the Mathematics Learning of their Children

Best Practices at Home Support for Learning Mathematics

Parents developed their own effective strategies to support math learning, often emphasizing consistent practice and step-by-step analysis. P5 noted, *"Nakita ko sa scores na gumana ang strategy ko… kahit papaano, hindi siya nasa ilalim,"* while P3 shared how they taught their child to identify the given information first to determine the correct solution path.

These approaches show how families created structured routines that improved accuracy and confidence, aligning with Epstein's Learning at Home framework and existing research on adequate home support. However, these practices emerged through personal experimentation rather than formal guidance, highlighting the need for parent training programs that model and disseminate effective strategies so households need not rely on trial-and-error.

Acquiring Knowledge and Adapting to a Child's Learning Style

Parents described the difficulty of updating their own math knowledge while also adjusting to their child's learning style. P2 shared, *"Na-zero yun kasi nag-depend lang siya sa akin, sir,"* showing how mismatched explanations can directly affect performance. At the same time, P4 noted, *"Kailangan pala yung idea ng bata at idea mo magtugma,"* emphasizing the need to align approaches. Others, such as P7, highlighted the role of consistency in helping children retain skills. These experiences demonstrate parents' efforts to personalize support despite limited guidance, revealing a gap in the system: schools rarely provide frameworks or training that help parents tailor explanations to children's learning preferences, leaving families to navigate differentiation on their own.

Family Support is Crucial in Mathematics Learning

Parents highlighted how family members—especially older siblings—played an essential role in supporting math learning. As P6 explained, *"Kapag ganoon, nagtatanong siya sa ate niya… tinatap niya yung ate niya para matulungan din siya,"* showing how siblings often functioned as readily available "more knowledgeable others" consistent with Vygotsky's ZPD. However, not all households have older siblings or additional academic support, revealing inequities in access to this form of scaffolding. These differences point to a systemic need for school-based alternatives such as peer tutoring programs, homework help desks, or after-school learning hubs that can provide similar guidance for children who lack such support at home.

Mathematics Learning is a Joy and a Frustration

Parents described a mix of pride and difficulty when supporting their children in mathematics. P3 shared, *"Mahirap… kasi ang achievement ng bata, achievement mo rin,"* while P5 reflected, *"Masaya na kaya na nila mag-isa, pero minsan malungkot kasi parang hindi ka na nila kailangan,"* capturing the emotional tension between wanting children to be independent and feeling less involved. These experiences reflect the emotional complexity of parental support reported in literature and suggest a need for schools to help parents understand that growing independence is a normal developmental milestone. Offering parent orientations or counseling sessions could ease frustration and reduce guilt by framing these emotions as part of the learning process rather than personal shortcomings.

Parent Ability and Competence Affect Support for Learning

Parents' confidence in their own abilities strongly shaped how effectively they could support their children. P4 expressed assurance, saying, *"Naniniwala ako na may kakayahan tayong magturo,"* while others, such as P7, admitted feeling limited: *"Talagang mahirap… mas mabuti pa rin kapag teacher ang nagtuturo."* These contrasting views show how parental self-efficacy influences both the frequency and quality of involvement. Importantly, this confidence is not formed in isolation—schools that provide clear instructions, accessible communication, and structured guidance tend to strengthen parents' competence. In contrast, a lack of direction leaves them uncertain and anxious about giving incorrect support.

Need for Additional Resources and Supplementary Materials

Parents repeatedly emphasized the need for more learning materials to support their children at home. P2 shared, *"Kailangan namin ng supplemental materials, tulad ng printed worksheets,"* while P5 added that clearer examples from the school would help them understand how to guide their children effectively. These requests align with research highlighting the value of accessible reference materials for home learning. The broader implication is that schools and policymakers must allocate resources for supplemental worksheets, sample solutions, and centralized repositories; without these supports, families are left to create or source their own materials, resulting in uneven quality and additional burden.

Creation of a Supportive and Motivating Learning Environment

Parents emphasized the importance of patience, understanding, and a calm atmosphere when assisting with mathematics. P3 advised, *"Unawain ang mga anak ninyo… huwag madaling magalit, lalo na sa math,"* while P6 noted that having a math-competent spouse made support easier because someone could focus and guide their child effectively. These reflections show how family climate—empathy, encouragement, and shared responsibility—shapes children's engagement and perseverance. At a broader level, this highlights the need for schools to offer simple parent modules on motivation and mindset strategies, helping families create supportive learning environments that reduce anxiety and sustain interest in mathematics.

Implications of the Findings

The findings of this study provide implications for different stakeholders. Schools must provide parent-friendly math guides, structured home-strategy toolkits, and orientation sessions to reduce reliance on online tutorials and prevent misaligned instruction. Clear communication and scaffolded homework design can support parents with varying educational backgrounds. Teachers should distribute cumulative practice sheets, real-life application tasks, and simple step-by-step explanations that parents can follow. Training parents in motivational strategies can also strengthen home learning climates. Finally, the findings

highlight the need for DepEd to invest in high-quality modules, editorial review processes, and supplementary resources. Policies should support peer tutoring, after-school homework centers, and parent capacity-building initiatives to ensure equitable learning support across households.

Conclusion and Recommendation

Parents play a crucial role in supporting children's mathematics learning, using digital tools, visual aids, and real-life applications to reinforce understanding. As students grow older, parental involvement naturally shifts from direct instruction to guided supervision, reflecting Vygotsky's scaffolding and the development of learner independence.

Despite their commitment, parents face challenges such as unfamiliar instructional strategies, generational gaps, and difficulties with memory retention and motivation. Their ability to respond varies depending on education, confidence, and access to technology. To support more consistent and equitable involvement, DepEd should require modules to include parent guides with worked examples and answer keys. At the same time, schools should offer orientation webinars that explain curriculum changes and demonstrate current problem-solving methods.

Parents are most effective when they feel prepared and supported. Schools can strengthen this involvement by providing study planners, printable worksheets, and access to a DepEd-curated repository or YouTube channel with teacher-approved explanations. These resources would help families reinforce mathematics learning at home with greater confidence and consistency.

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4. **Ethical Approval:** This research received ethical clearance from the PUP Research Ethics Committee (REC) with the code **UREC-2024-0069**.

5. **Declaration of Generative AI in Scientific Writing**: During the preparation of this work, the authors used ChatGPT and Gemini to assist in summarizing the literature review and in rephrasing and refining the Results and Discussion section. All AI-generated content was carefully reviewed and edited by the authors, who take full responsibility for the publication's content.

References

Bloomberg, L. D., & Volpe, M. (2008). Completing your qualitative dissertation: A roadmap from beginning to end. Sage Publications. https://doi.org/10.4135/9781452226613

Budhrani, K., Martin, F., Malabanan, O., & Espiritu, J. L. (2021). How did parents balance it all? Work-from-home parents' engagement in academic and support roles during remote learning. *Journal of Online Learning Research, 7*(2), 153–184. https://files.eric.ed.gov/fulltext/EJ1314265.pdf

Darragh, L., & Franke, N. (2021). Lessons from lockdown: Parent perspectives on home-learning mathematics during COVID-19. *International Journal of Science and Mathematics Education, 20*(7), 1521–1542. https://doi.org/10.1007/s10763-021-10222-w

DeriNgöl, Y. (2022). Parents' mathematics anxiety and their contribution to mathematics education. *International Journal of Psychology and Educational Studies, 9*(1), 12–21. https://doi.org/10.52380/ijpes.2022.9.1.374

Epstein, J. L. (2018). *School, family, and community partnerships: Preparing educators and improving schools* (2nd ed.). Routledge. https://doi.org/10.4324/9780429494673

Firouzkouhi, M., Abdollahimohammad, A., Rezaie-Kheikhaie, K., Mortazavi, H., Farzi, J., Masinaienezhad, N., & Hashemi-Bonjar, Z. (2022). Nurses' caring experiences in the COVID-19 pandemic: A systematic review of qualitative research. *Health Science Review, 3*, 100030. https://doi.org/10.1016/j.hsr.2022.100030

Gonzalez-DeHass, A. R., Willems, P. P., Powers, J. R., & Musgrove, A. T. (2022). Parental involvement in supporting students' digital learning. *Educational Psychologist, 57*(4), 281–294. https://doi.org/10.1080/00461520.2022.2129647

Hamid, N. A., & Mansor, M. (2023). Parental engagement using the '4M' concept in the education development process in Malaysia. *International Journal of Academic*

Research in Progressive Education and Development, 12(2), 45–59. https://doi.org/10.6007/ijarped/v12-i2/18099

Jeynes, W. H. (2011). Parental involvement and academic success. Routledge. https://doi.org/10.4324/9780203841208

Kim, M. H., & Sidney, P. G. (2023). Do teacher instructional practices shape children's academic self-concept and interest in mathematics and science? *Infant and Child Development, 33*(2), e2429. https://doi.org/10.1002/icd.2429

Kiss, A. J., & Vukovic, R. (2020). Exploring educational engagement for parents with math anxiety. *Psychology in the Schools, 58*(2), 364–376. https://doi.org/10.1002/pits.22451

Lin, K. H., & Mohamed, S. (2023). Relationship between parents' beliefs in early mathematics and home learning environment. *International Journal of Learning, Teaching and Educational Research, 22*(1), 260–278. https://doi.org/10.26803/ijlter.22.1.21

Mohr-Schroeder, M. J., Jackson, C., Cavalcanti, M., Jong, C., Schroeder, D. C., & Speler, L. G. (2017). Parents' attitudes toward mathematics and the influence on their students' attitudes: A quantitative study. *School Science and Mathematics, 117*(5), 214–222. https://doi.org/10.1111/ssm.12225

Moustakas, C. E. (1994). Phenomenological research methods. Sage Publications.

Oh, D. D., Barger, M. M., & Pomerantz, E. M. (2022). Parents' math anxiety and their involvement in children's math learning: Implications for achievement. *Developmental Psychology, 58*(11), 2158–2170. https://doi.org/10.1037/dev0001422

Olayinka, A. A. (2023). Factors influencing the attitudes of secondary school students towards the study of mathematics. *IJRDO - Journal of Mathematics, 9*(7), 1–8. https://doi.org/10.53555/m.v9i7.5767

Parker, P. C., Daniels, L. M., Mosewich, A. D., Pelletier, G. N., & Tulloch, S. L. (2025). Exploring collegiate athletes' perceived control beliefs involving sport setback experiences during COVID-19. *Journal for the Study of Sports and Athletes in Education, 19*(2), 196–220. https://doi.org/10.1080/19357397.2025.2470097

Rahman, N. A. A., & Abdullah, M. F. N. L. (2022). Collaborative learning to enhance mathematical understanding among elementary students. *EDUCATUM Journal of Science Mathematics and Technology, 9*(2), 10–15. https://doi.org/10.37134/ejsmt.vol9.2.2.2022

Ricci, M.C., & Lee, M. (2016). Mindsets for Parents: Strategies to Encourage Growth Mindsets in Kids (1st ed.). Routledge. https://doi.org/10.4324/9781003236672

Second Congressional Commission on Education. (2024). Miseducation: The failed system of Philippine education — EDCOM II Year One Report. https://edcom2.gov.ph/media/2024/02/EDCOM-II-Year-One-Report-PDF-022924.pdf

Silver, A. M., Elliott, L., & Libertus, M. E. (2021). When beliefs matter most: Children's math achievement and parental math anxiety. *Journal of Experimental Child Psychology, 201*, 104992. https://doi.org/10.1016/j.jecp.2020.104992

UNESCO. (2023). Education: From disruption to recovery | UNESCO. www.unesco.org. https://www.unesco.org/en/covid-19/education-disruption-recovery

Villareal, S. J., Panopio, F. P., Jr., Bitin, F. P., Tan, C. S., Bandoy, M. M., & Buenvinida, L. P. (2022). A phenomenological study of special education teachers' and parents' lived experiences in upholding learners with disability in a transition program during the pandemic. *International Journal of Theory and Application in Elementary and Secondary School Education, 4*(2), 219–234. https://doi.org/10.31098/ijtaese.v4i2.1116

Zanabazar, A., Deleg, A., & Ravdan, M. (2023). Factors causing math anxiety among undergraduates. *International Journal of Innovative Research and Scientific Studies, 6*(3), 1609–1619. https://doi.org/10.53894/ijirss.v6i3.1609

Zheng, D., & Mao, W. (2023). Parental homework involvement and students' mathematics achievement: A meta-analysis. *Frontiers in Psychology, 14*, 1218534. https://doi.org/10.3389/fpsyg.2023.1218534

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